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<p>This report describes the process and results of designing a group wage incentive system for production workers at a naval shipyard. The system provides periodic cash awards to groups of civil service workers performing above standard. A separate but similar system for first-line supervisors also was designed. Key features of the organizational setting that were considered in the design of these systems are discussed. Examples of award calculations and report layouts for the automated system are presented.</p>					
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Designing a Group Wage Incentive System for Shipyard Production Employees

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**Designing a Group Wage Incentive System
for Shipyard Production Employees**

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FOREWORD

The purpose of this research and development, which was supported under a task order from the Pearl Harbor Naval Shipyard (NAVSHIPYDPEARL), was to design, develop, test, and evaluate a group wage incentive system for civilian production workers at NAVSHIPYDPEARL. This report documents the design and development of the system. Two companion technical reports are available. The first report describes the performance measurement and reporting system developed to support the incentive system (NPRDC Technical Report 84-55). The second report describes the test and evaluation of the incentive system (NPRDC Technical Report 85-35). These three reports are intended for government policy makers and managers interested in using innovative performance-based incentives to improve productivity.

Four technical notes summarize issues pertaining to the application of the research findings. NPRDC HFOSL Technical Note 72-85-06 presents a management plan for expanding the group incentive system from a pilot shop to all shops in the Operations Department at NAVSHIPYDPEARL. NPRDC HFOSL Technical Note 72-85-11 discusses seven management questions associated with the continued operation and expansion of the group incentive system. NPRDC HFOSL Technical Note 72-85-12 discusses specific technical issues that must also be addressed in an expansion effort. Finally, NPRDC HFOSL Technical Note 72-86-03 outlines the relationship between NAVSHIPYDPEARL's new PMR system and ongoing shipyard performance and cost accounting programs.

Appreciation is extended to Captain D. H. Hines and Captain H. C. Hunter for their support of the project and to the many individuals throughout NAVSHIPYDPEARL who helped design, develop, and test the system. The efforts of Commander M. E. Morgan, who served as Project Officer during the early stages of the project; Commander A. S. Dowd, who served as Project Officer after implementation; Mr. Ronald Yamagata, who served as Incentive Coordinator; and Mr. Robert Kanemaru, who coordinated the data processing requirements of the project, are particularly appreciated.

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SUMMARY

Problem

In the Navy logistics establishment there is a need to improve productivity. This need is driven by the challenge of providing effective maintenance, repair, and supply support to an expanding inventory of ships and ship systems while minimizing increases in the size and cost of this support.

Purpose

This report has three aims to: (1) provide Navy managers with background information that will enable them to select the type of incentive system best suited to their organization; (2) describe the design and development of a group wage incentive system intended for use in the Inside Machine Shop, Shop 31, at Pearl Harbor Naval Shipyard; and (3) document the automated system developed to calculate awards and to provide management with information about the Shop 31 system.

Approach

An incentive system was designed to provide periodic cash awards to groups of civil service production workers performing above standard. A separate but similar system for first-line supervisors also was designed. Shop 31 was selected as a pilot shop since its performance can have a major impact on overall shipyard performance and since there was substantial room for improvement in this shop.

The structure and operation of the shipyard were analyzed and features such as the management style, technology, and organizational structure were considered in the design of the two incentive systems. The design issues addressed were: selecting a performance measure, determining the unit of performance measured, establishing the length of the performance period, determining the output base, and selecting the type of award.

A related set of issues was considered in determining how to calculate the awards: setting a performance standard, establishing a method for distributing an award among work gang members, specifying the incentive period, and choosing a sharing rate.

Results

An automated system for award calculation was developed. This system is tied to a new and enhanced performance measurement and reporting system developed expressly for the shipyard by NAVPERSRANDCEN. Taken together, these systems produce a number of management reports for documenting, recommending, processing, and auditing incentive awards. These automated systems require minimal assistance from support codes. This entire system of performance measurement, reporting, and award calculation can be used as a management tool to measure and reward productivity.

Conclusions and Recommendations

1. The group-based incentive award system designed expressly for use in the Operations Department at Pearl Harbor Naval Shipyard conforms to attributes of effective incentive plans as well as Navy incentive awards policy. The desirability of expanding the system to nonproduction employees should be ascertained.

2. Since the system was designed expressly for a naval shipyard, its use can and should be extended to production or operations departments in the other naval shipyards.

3. The system is automated, and thus requires minimal assistance from support codes.

4. The incentive system responds directly to the service-wide need for new management techniques and structures to improve worker motivation and performance. As such, the system addresses the challenge to provide effective and efficient maintenance and repair to an expanding inventory of ships and ship systems.

5. The new system creates an additional incentive and mechanism for improving cost and schedule control, two areas of current interest in Navy shipyards. The extent to which the system can be used to address these and other current Naval Sea System Command initiatives to improve shipyards should be investigated.

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INTRODUCTION

Problem

The goal of a 600-ship Navy poses a challenge to provide effective maintenance, repair, and supply support to this expanding inventory of ship systems and equipment. To meet this challenge while minimizing growth in the size and cost of the Navy logistics establishment, naval shipyards must improve productivity. New management techniques and structures to improve worker motivation and performance are essential to increased productivity. To this end, shipyard commanders have been directed to take full advantage of all permissible means to provide incentives that improve depot-level regular overhaul and short repair availability performance.

Purpose

The first objective of this report is to provide Navy managers with background information that will sensitize them to some of the issues pertinent to selecting an incentive system. No single process can be prescribed, but the following five questions are discussed at length to impart an appreciation for the types of considerations in this process:

1. Can financial incentives improve productivity?
2. What types of incentive plans are available?
3. What are the merits and limitations of alternative types of plans?
4. What organizational characteristics should be considered in selecting an incentive plan?
5. What are the attributes of an effective plan?

The second objective is to describe the design and development of a group wage incentive system intended for use in the Inside Machine Shop, Shop 31, at Pearl Harbor Naval Shipyard (NAVSHIPYDPEARL). This system was designed to meet the primary objective of improving the performance efficiency of Shop 31 without adversely affecting either the schedule adherence, product quality, or job attitudes of employees participating in the program. This description should provide Navy managers with a concrete example of the design of a monetary incentive system within the Navy industrial environment.

The third objective is to document the automated system developed to calculate awards and to provide management with information about the Shop 31 system.

SELECTING AND DESIGNING AN INCENTIVE PLAN

Can Financial Incentives Improve Productivity?

There is considerable evidence that financial incentives can motivate performance in both private and public industrial settings (Lawler, 1981; Marriott, 1968; Shumate, Dockstader, & Nebeker, 1983; Whyte, 1955). A review of research investigating different approaches to worker productivity found wage incentives to be more effective than goal setting, participative decision making, or job enrichment (Locke, Feren, McCaleb, Shaw, & Denny, 1980). Likewise, in a study of 400 private sector companies, Fein (1973) found that those companies that used work measurement in their operations had 14 percent higher productivity levels than those that did not; on the other hand, companies that used wage incentive plans had a 43 percent higher productivity level than those that used only

work measurement. The average difference in productivity between a system that used no measurement and one that used an incentive plan was nearly 64 percent.

In Navy industrial settings, the use of financial incentives has improved the productivity of both blue collar and white collar employees. For example, at naval shipyards, incentives led to an increase in efficiency of 14 percent for data transcribers (Bretton, Dockstader, Nebeker, & Shumate, 1978), 26 percent for small purchase buyers and supply clerks (Nebeker & Neuberger, 1985), and 10 percent for machinists (Mohr, Riedel, & Crawford, 1985). A naval air rework facility increased the performance efficiency of aircraft mechanics in one of its shops by more than 25 percent by introducing a system of financial incentives (White, Crawford, & Dockstader, 1986).

Although performance-based financial incentives have been used to improve productivity, their success in doing so is not automatic. Success, in part, depends on selecting the appropriate type of plan as well as ensuring its design incorporates the attributes of an effective incentive plan.

What Types of Incentive Plans are Available?

There are many methods of relating pay to performance. Lawler (1971) classifies incentive plans on three dimensions. First, the plans are differentiated by output base used in determining the rewards; that is, whether the reward is based on the output of the individual, group, or organization. Second, plans vary in the way performance is measured. Some indices used are efficiency, cost-effectiveness, productivity, rating by a superior, and profit. Third, they differ in the type of reward offered. Examples are time off, salary increases, cash bonuses, and profit sharing. A breakdown of Lawler's classification system is presented in Table 1. Since cash bonuses are most relevant to the federal sector, the following discussion will be limited to cash bonuses for the individual, group, and organization.

Table 1
A Classification of Pay Incentive Plans

Output Base	Performance Measure	Reward	
		Salary Increase	Cash Bonus
Individual plans	Productivity Cost-effectiveness Superior's rating	Merit rating plan	Sales commission Piece rate
Group plans	Productivity Cost-effectiveness Superior's rating		Group incentive
Organization-wide plans	Productivity Cost-effectiveness Profit	Productivity Bargaining	Kaiser, Scanlon Profit sharing

Source: Lawler, E. E., III. (1971). Pay and organizational effectiveness: A psychological view (p. 164). New York: McGraw-Hill.

Individual Plans

There is no dearth in types of individual plans devised. Examples of these include straight piecework plans, differential piece rate plans, multiple piece rate plans, standard hour plans, and selective plans. The key feature of these individual level incentive plans is the direct relationship between an individual's output and his or her incentive award; the more produced, the larger the reward.

The piecework approach is the most widely used form of individual incentive. Piecework plans have in common the payment of a monetary rate per piece or unit of work. In straight piecework the rate per unit is constant at all levels of output. Straight piecework is commonly used in the garment industry. The direct relationship of output and reward is frequently modified by the application of the Manchester guarantee, which simply ensures a base rate of pay to employees who fail to meet the standard. Another modification sometimes made is that of varying the reward rate with the level of output. Examples are the Taylor differential piecework plan and the Gantt task and bonus plan, which were popular decades ago but are not commonly used now.

Another individual incentive approach is that of the standard hour plan. Piecework plans can be expressed in standard hour terms. The difference is that standard hour plans are expressed in time per unit of output rather than as a monetary rate. Other names for standard hour plans are time piecework, differential pay rate, standard time, and hour-for-hour (Patten, 1977). Under standard hour plans the employee's incentive earnings can be determined in different ways, such as using the amount of time saved or the percentage of efficiency. Both piece rate and standard hour plans are based on the measurement of what is considered normal, or standard, production of a job. This standard is used in determining the amount of piece rate in piece rate plans and the time savings in standard hour plans. Needless to say, accuracy in the measurement of both individual output and standards is a necessity.

Group Plans

Many jobs are interdependent. They require cooperation among individuals, and often individual performance is difficult to measure. Group-level plans acknowledge this interdependence; they are identical conceptually to individual incentive plans except that the incentive award is based on the output of the group rather than the individual (Patten, 1977). (Conceptual identity, however, does not imply identical limitations for individual and group plans. These limitations will be discussed later.)

Group plans can be piecework- or standard hour-based. Members of a group may be awarded equal incentive earnings or differential amounts, where the individual's portion may be determined by such factors as amount of time spent working in the group, wage grade level, skill level, and seniority.

Organization-wide Plans

Typically, with organization-wide plans everyone in the organization receives an incentive award if merited by overall organizational performance. The size of the award is related to some measure of organizational performance (e.g., profit, sales) (Lawler, 1971). In the Scanlon Plan, the best known of these plans, the measure is labor savings or cost-effectiveness. The Scanlon Plan has three basic elements (Moore, 1975): (1) the philosophy of cooperation, (2) an employee participation system to provide a means for employees to input ideas for increasing efficiency and reducing costs, and (3) an incentive

pay system. The basic concept underlying the Scanlon Plan is that efficiency depends upon labor-management cooperation. The employee participation suggestion system is effected through a system of production and screening committees. Production committees are formed for each working unit or department and are comprised of elected members. Screening committees consist of management and elected members of production committees. The functions of these committees vary across organizations.

The basic incentive pay formula is the ratio of the total labor costs to the sales value of production, or the market value of goods and services produced as a result of labor for a base period. This base period ratio is termed the normal ratio of labor to productivity.

$$\begin{aligned} \text{Base Period Ratio} &= \text{Normal Ratio of Labor to Productivity} \\ &= \frac{\text{Total Labor Costs}}{\text{Sales Value of Production}} \end{aligned} \quad (1)$$

An increase in the denominator relative to the numerator reflects an increase in productivity that is distributed as incentive pay to the members of the organization. Other examples of organization-wide plans are the Rucker, Kaiser, and Improshare Plans.

What are the Merits and Limitations of Alternative Types of Plans?

The merits and limitations of each of the three types of incentive plans can be evaluated using a rating system devised by Lawler (1971). This system permits the comparison of alternative plans based on three criteria. The first criterion is the degree to which the plan links pay and performance, in the perception of employees. Next, is the extent to which perceived negative consequences of good performance, such as social ostracism, are minimized. The third criterion is how well the plan contributes to the perception that rewards other than pay result from good performance. Lawler's ratings are presented in Table 2. The ratings range from +3, indicative of a plan that has worked well in terms of the criterion, to -3, where historically the plan has not worked well.

Table 2
Ratings of Pay Incentive Plans

Type of plan	Performance measure	Ties pay to performance	Minimizes negative side effects	Ties other rewards to performance
Individual	Productivity	+3	-2	0
	Cost-effectiveness	+2	-1	0
	Superior's rating	+2	-1	+1
Group	Productivity	+2	0	+1
	Cost-effectiveness	+2	0	+1
	Superior's rating	+2	0	+1
Organization-wide	Productivity	+2	0	+1
	Cost-effectiveness	+2	0	+1
	Profit	+1	0	+1

Source. Lawler, E. E., III. (1971). Pay and organizational effectiveness: A psychological view (p. 165). New York: McGraw-Hill.

It can be seen that for the criterion of linking pay to performance, individual plans are rated the highest, then group plans and, lastly, organization-wide plans. This is reflective of the fact that in group plans, to some extent, and in organization-wide plans, to a greater extent, the individual's incentive earnings are not only a function of his or her own performance, but are influenced by the performance of co-workers and other external conditions.

Lawler also notes that plans that use objective measures are rated higher than those that use subjective measures, the rationale being that objective measures have a higher credibility with employees. Objective measures of employee performance are perceived as being more valid than ratings by a superior. Generally, then, it is seen that individual plans that measure performance objectively are rated highest for the first criterion; that is, employee perception that pay is tied to performance is greatest when objective measures of individual employee performance are used.

Individual plans receive negative ratings on the second criterion, which is concerned with minimizing the perceived negative consequences of good performance. Under individual plans employees often perceive that good performance will result in running out of work, being laid off, and social rejection. The perceived negative consequences of good performance may neutralize the positive effect of tying pay to performance on individual plans. Group and organization-wide plans are rated neutral on this criterion.

For the third criterion, tying nonpay rewards to performance, individual plans are rated the lowest of the three types of plans. Under group and organization-wide plans, it is generally to the benefit of everyone to work effectively; good performance is more likely to result in esteem and social acceptance by fellow workers than under individual plans.

A detailed listing of the merits and limitations of the three types of plans, as gleaned from various sources, is presented in Appendix A.

What Organizational Characteristics Should be Considered in Selecting an Incentive Plan?

In addition to merits and limitations of various types of plans, the characteristics of the organizational setting where a plan is to be installed need to be considered in its selection. Three characteristics of an organization should be considered both individually and in combination with each other: organizational structure, production method or technology, and human relations climate/management style.

Organizational Structure

This characteristic pertains to the size and degree of centralization of the organization. In small organizations employees feel that their performance affects the performance of the total organization, a relationship not tenable in large organizations. Small organizations can use plans (e.g., organization-wide) not suitable for large ones. In centralized organizations the performance of a subunit may be difficult to determine. Group or subunit plans are practical only if the organization is to some extent decentralized; that is, decision making and accounting data are based on the group or subunit of interest.

Production Method or Technology

Woodward (1958, 1965) differentiates between industrial organizations in terms of the method or technology used for production. The product created by an organization

determines which technology is used: unit production, mass production, or process production. These technologies differ in terms of the degree to which individual performance is identifiable and measurable as well as the degree of cooperation necessary among workers. Organizations that use a unit or mass production technology may be well-suited to piece rate incentives. With a process technology, however, organization-wide incentives may be superior, because individual performance is more difficult to measure and high worker cooperation is necessary.

Human Relations Climate

Aspects of an organization's human relations climate bear consideration in selecting a plan. For example, if the degree of trust that employees have in their superiors is low, incentives may not work, particularly if the performance measure is not objective. When trust is low, employees may be uncertain about their superiors' intentions. Therefore, they may not believe that the performance ratings are either accurate or fair. As a result, it is unlikely that they will respond favorably to incentives that are based on these measures.

Additional questions, suggested by Daly (1975), need to be considered before choosing an incentive plan.

1. Do employees really believe they can increase their productivity? If they don't, the motivating pull of an incentive plan will be diminished.

2. Are there strong feelings of teamwork within definable work groups? Although a strong group identity can restrict group productivity, it can also work to improve productivity.

3. Have incentives of any kind been used before? Prior experience with incentives, it has been found, influences employees' learning and understanding of a new incentive plan more than level of education and thus facilitates implementation. However, prior experience with unsuccessful and poorly implemented systems may hinder acceptance of a new plan.

4. How do the employees perceive the labor-management relationship and the organization's employee relations program? If the employees view the labor-management relationship as a constructive one, and if the employee relations program is perceived as rational, nonmanipulative, and relevant to the employee's situation, more interest and credibility will be given to the incentive plan than if these conditions do not exist.

It is important to remember that no one incentive plan will be equally effective in all organizations. Lawler (1971) states that "it is vital to fit the pay plan to the organization." He recommends that pay incentive systems not be used in organizations where: (1) the level of trust is low, (2) individual performance is difficult to measure, (3) performance must be measured subjectively, (4) inclusive measures of performance cannot be developed, and (5) large pay rewards cannot be given to the best performers.

What are the Attributes of an Effective Plan?

Pay incentive plans have been used in the private sector for many years. Likewise, in recent years, Navy activities have successfully implemented a number of incentive systems on an experimental basis. As a result, considerable knowledge has been gained regarding the attributes of effective incentive plans.

Rewards for Good Performance

A key objective of any incentive plan is to recognize and reward employees whose performance exceeds work standards. The intent of an incentive plan is to reward employees who perform above standard rather than to penalize those who fail to perform at this level. An incentive plan is designed to benefit the employees through monetary incentive awards and the organization through increased productivity.

Reward in Proportion to Improvement

The amount of an incentive award should be proportional to the amount that performance exceeds the incentive standard. This promotes fairness and creates an incentive for continual improvements in performance.

Job Security

A high degree of job security is essential to the successful implementation of any incentive plan. This policy must be clearly communicated to all employees covered by the plan. Employees will resist working themselves out of a job.

Fair System

The incentive plan must be perceived as fair and equitable by the workforce. Workers must believe that management will respond to any inequities through modifications in the incentive plan. The system, therefore, should be flexible enough to allow for such modifications.

Incentive Pay Rate

Navy policy (Incentive Awards Program, April 1982) authorizes sharing with employees up to 50 percent of cost savings from productivity improvements. Experience also has shown that employees respond favorably to incentive plans when at least 30 to 50 percent of the saved base salary is shared with the workers. That is, if an individual saves the organization one man-hour and his/her salary is \$12.00 per hour, the incentive award for that employee should be between \$4.00 and \$6.00. Incentive pay rates lower than these are presumed not to be valued enough by employees to result in sustained increases in productivity. Rates higher than these do not provide sufficient return to the organization.

Standards

Experience has shown that performance standards should be set at a point where approximately 30 percent of the employees or groups are presently performing at or above standard. If the standard is set too high, workers will perceive that the standards are unattainable, and the incentive plan will not motivate them to improve their work performance. On the other hand, if employees see that some workers are now actually performing at a rate that would result in incentive pay, then the goal of performing above standard will be seen as achievable.

Timely Incentive Payment

Procedures used to make incentive award payments should be streamlined to keep the delay between effective employee performance and awards to a minimum. The shorter the delay, the more meaningful the award will be to the employee.

Level of Measurement

Productivity should be measured at the organizational level from which the benefits accrue. Production that is the result of the coordinated efforts of a work group should be measured and rewarded to the group, not the individual.

Accurate Performance Reporting

Since accurate measures and work standards are important elements of an incentive plan, special attention should be directed at performance reporting. Accuracy requires the development of an internal performance measurement and reporting (PMR) system that can be efficiently managed.

The next section of this report provides a concrete example of how to design an incentive plan for a Navy setting. This case study should illustrate how the background questions, discussed in this section, can guide the selection and design of a particular incentive plan.

SHOP 31 SYSTEM DESIGN

Research Site

The incentive system was designed expressly for use in the Operations Department at NAVSHIPYDPEARL. The system was designed for the Inside Machine Shop (Shop 31), with the idea of eventually expanding it to other shops in the Operations Department or even other shipyards. The mission of naval shipyards is to perform overhaul, repair, construction, and conversion work for Navy surface craft and submarines. NAVSHIPYDPEARL employs over 6000 civil service workers, 4225 of whom are assigned to the Operations Department.

Shop 31 is one of 14 shops in the Operations Department at NAVSHIPYDPEARL and employs approximately 480 wage grade employees, 23 first-level supervisors (foremen), and 7 general foremen, on three shifts. Each supervisor is responsible for a work gang consisting of 12 to 25 employees who specialize in one portion of the shop's work. Shop 31 performs the shipyard's inside machine work, including light and heavy machine work, hydraulic repairs, and associated equipment testing.

Shop 31 is organized into 20 work centers, each responsible for a particular type of work. Production shops receive work requirements from the Planning Department on job order (JO) key operation (KEYOP) documents that provide detailed descriptions of the work to be performed, man-hour allowances for the work, and schedule information. Typically, a JO KEYOP shows several job operations, called line items, required to complete the work package. Each line item is assigned to a particular work center and carries an associated man-hour allowance for accomplishing the work. Foremen account for their employees' time by listing the line items worked on the employees' daily time cards. If an employee works on overhead jobs or takes leave, this information is also entered on the time card.

Shop 31 was selected for the initial test of an incentive system for a number of reasons. Three of the most important were:

1. Key role in organization. Shop 31 is the lead shop on many of the shipyard's work packages, indicating that it is on the critical path and shares major responsibility for

completing the work. Thus, the shop's performance can have a major impact on overall shipyard performance.

2. Potential for improvement. Shop 31 has historically over-expended the man-hour allowances issued by the Planning Department and missed scheduled completion dates for some work packages. Thus, there was substantial room for productivity improvement in Shop 31.

3. Management support. Finally, key shipyard managers supported the idea of initially focusing the improvement effort in Shop 31.

Shop 31 System Design Issues

Overview

A group wage incentive system was designed to improve work gang performance efficiency by rewarding man-hour savings on JO KEYOP line items. Half of the value of man-hour savings are shared among the work gang members in the form of cash awards. Awards are paid every 4 weeks and are directly proportional to each work gang's above-standard performance. Foremen are eligible for awards whenever overall shop performance results in man-hour savings. To the greatest extent possible, the system was designed to conform to the attributes of effective plans discussed in the first section of this report.

Selection of a Performance Measure

Labor efficiency, as reflected in man-hour savings, was selected as the measure for use in this incentive system. There are other important performance measures in the shipyard such as schedule adherence, quality, safety, or capital improvements; however, efficiency was chosen because:

1. Workers can improve labor efficiency through increased effort. By doing so they can help the shipyard meet return-cost performance goals.

2. Shipyard efficiency measures were judged to be more adequate than other measures in terms of a number of performance measure characteristics, such as objectivity and accuracy (cf. Riedel, Crawford, Morell, & Kanemaru, 1984).

3. The existing shipyard management information system (MIS) produces efficiency information that could be used (a) as performance feedback to employees, (b) as a basis for determining incentive awards, and (c) as a historical baseline to evaluate the effects of implementing the system.

Unit of Performance Measured

The JO KEYOP line item was selected as the unit of performance to measure in this incentive system for four reasons. Compared to alternative measures, this unit of performance has a greater degree of: (1) sensitivity to changes in worker effort or strategy, (2) completeness, (3) motivating potential, and (4) fairness.

Sensitivity. Sensitive measures are directly linked to performance and will reflect changes in effort or work strategies. Some measures are less effective at doing this than others. At the organizational level, performance measures might be based on entire

overhauls because shipyard managers are largely concerned with overall performance on every ship or submarine being worked. At another level, shop superintendents would appropriately be evaluated and rewarded based on the performance of their shops. Likewise, KEYOP managers who are responsible for the coordination among shops and sections required to complete an entire KEYOP might best be evaluated on KEYOP performance. Although ship, shop, and KEYOP performance are undeniably important to the shipyard, the impact of the individual production worker on such global measures is diluted by the impact of all other workers.

Alternate performance measures must be used if shipyard managers want to improve and reward the performance of waterfront workers. Shop workers have more direct impact on performance of individual line items. Performance measures based on line item performance are more closely linked to workers' jobs than those based on ship, shop, or KEYOP performance and will more closely reflect changes in workers' efforts or work strategies. Further, measures that reflect workers' performance should be made more visible to employees so that they can be aware of the effects of their work.

Inclusiveness. Incentive systems should be based on performance measures that are inclusive; that is, include all relevant work performed in a given time period. At any organizational level and for any measure, this means that all relevant facets of the shipyard's performance should be covered by the measurement system. If only a portion is measured for inclusion in the incentive system (e.g., one ship being overhauled or only submarine work), performance improvement on measured work might be undertaken at the expense of unmeasured work (e.g., foremen and workers might place a disproportionate share of their efforts and attention on those jobs that are measured). Also, including all work limits the incentive to cross-charge (i.e., charge time expended on one job to another job) in order to artificially inflate performance measures and accrue earnings on those jobs eligible for awards. In order to assure true, bottom-line improvement, all of the shipyard's work must be covered.

Performance efficiency represents the major portion of most employees' responsibilities. Inclusion of all worked line items in the performance efficiency measure provides comprehensive coverage of employees' performance within the shop.

Motivating Potential. Measuring performance at the line item level also increases the motivating potential of incentive awards based on these measures. Rewards can be paid out in a more frequent and timely fashion than would awards paid at the completion of each availability. Further, line item performance measurement assures interest in performance throughout the overhaul or repair cycle. If awards were based on overall performance at the completion of each availability, workers might give up trying to improve performance and earn awards if they believed the availability had already been "hopelessly" overexpended. Additionally, awards based on shop or overhaul performance do not provide other workers with the motivating example of superior performers rewarded for line item performance.

Fairness. Finally, the fairness of incentive awards is, in part, dependent on the work unit measured. When awards are based on large units rather than line items, more poor performers will receive incentive awards when overall performance is good and more superior performers will fail to be rewarded when overall performance is poor.

In sum, the above considerations suggest that if the goal is to motivate production workers to improve performance efficiency, rewards should be linked to performance measures covering all work at the line item level.

Performance Period

Measuring performance on all work at the line item level requires specifying a performance period, the time period over which performance is evaluated. A 12-week performance period was chosen after considering several factors.

Labor Charges Against KEYOPs After First Closure. All labor charges to a KEYOP must be accounted for if the performance efficiency measure or performance factor (PF) is to reflect performance on that KEYOP accurately. If a PF calculation is made for a KEYOP and then additional hours are charged, the PF is incorrect. For example, if a PF is computed before a final accounting of expended hours (EH) because labor transactions are charged to a closed KEYOP without being rejected by the MIS, the late charges would not be reflected in the PF.

The performance period also needs to be long enough to pick up charges on KEYOPs that have been reopened for additional work. If a KEYOP is reopened for additional charges after performance has been calculated, there is a risk of overpaying incentive awards. An analysis of the expenditures due to late charges and reopened KEYOPs indicated that a 12-week performance period would be long enough to account for most of these expenditures.

Variability in Planning Estimates. Since the precision of planning estimates varies across KEYOPs, some KEYOPs have man-hour allowances that are easy to meet, while others have allowances that are difficult, or impossible, to meet. The existing system used a 4-week performance period, making the PF particularly sensitive to variations in the precision of man-hour estimates. The shorter the performance period, the more likely that the PF reflects good (bad) standards as much as it does good (bad) performance. This is because, with shorter performance periods, PFs are based on fewer line items; thus, the influence of each individual line item on the PF is increased. Given this situation, it was necessary to specify a performance period that was long enough so that performance could be assessed on a mix of "easy" and "hard" KEYOPs. A 12-week performance period provided for that mix, increasing the accuracy of the performance measure by canceling the effects of both over- and underestimates of actual required man-hours.

Number of KEYOP Closures. Since KEYOPs vary in length, sometimes a foreman and his work gang will have a large number of closures during a given period while in other periods they will have considerably fewer. A short performance period would lead to erratic changes in award amounts since a worker could achieve large awards when there were many closures while getting little or no award with few closures. It was determined that a 12-week performance period is long enough to encompass a sufficient number of KEYOP closures so that awards are based on a stable PF. This has the benefit of ensuring a positive relationship between performance and awards.

Output Base for the Incentive System

Workers. Shop 31's incentive system is a group-based system in which all workers whose time is charged to a particular foreman comprise the group or work gang. This output base was chosen since work is planned, performed, and accounted for at the group level. Cooperation and teamwork are important determinants of efficient performance. Since employees' time is often charged to more than one foreman, the system was designed to accommodate employee membership in multiple work gangs. This feature is particularly important to backshift workers (employees on second and third shifts) whose time is charged to the various day shift supervisors responsible for their work. Employees

are eligible for incentive awards whenever any gang they are a part of saves man-hours. Thus, they can earn incentive awards based on their contribution to more than one work gang.

When a foreman's group performance results in man-hour savings (i.e., when man-hour allowances exceed man-hour expenditures for line items of KEYOPs that closed during the performance period), the shipyard saves money. Incentive awards are based on these savings and are calculated in proportion to the number of man-hours saved. The more hours saved by a work gang the more incentive earnings it receives.

Foremen. Foremen in Shop 31 are also eligible to earn incentive awards based on a separate but similar group system. Since the primary responsibility of a shop supervisor is to coordinate with other foremen to complete the shop's work efficiently and on schedule, all the foremen in the shop can be viewed as constituting one group. Therefore, the output base of the foreman incentive award calculation is the overall shop performance during each 12-week performance period. Foremen are eligible to earn incentive awards only when the performance of the entire shop results in positive monthly man-hour savings for the period (i.e., a PF greater than 100%). While the major part of a foreman's award is based on the overall shop performance, a slight differential in the final amount of the incentive award is based on the performance of the foreman's own work gang.

Selection of Award Type

Cash awards were chosen over the alternatives (e.g., time off, prizes, salary increases) because people generally value cash rewards. Monetary incentives repeatedly have been found to positively influence productivity and job satisfaction. Additionally, cash award incentive systems are simpler to administer than plans offering some other type of reward.

In sum, the incentive system was designed as a group system paying cash awards for efficient labor performance on KEYOP line items over a 12-week performance period. To calculate awards there is a need to: (1) set the performance standard in order to determine a work gang's efficiency (i.e., saved hours), (2) determine an individual's share of any saved hours, (3) decide how frequently to pay awards, and (4) set a rate for how much of the cost savings to share with employees.

Calculation of Awards

Performance Standard

The PF is obtained by dividing allowed hours (AH) by expended hours (EH). A PF of 1.0 reflects standard performance, whereas a PF above or below 1.0 corresponds to above or below standard performance, respectively. A PF below 1.0 may be due to low performance, conservative allowances, or a combination of both. Regardless of the reason, if a PF is consistently less than 1.0 and management wants performance to improve, it may be appropriate to adjust the standard or goal to bring it into a range where it is seen as achievable by the employees. This is true whether or not the AH are based on a time and motion study or on other methods, such as historical analysis.

The standard can be adjusted by boosting or reducing the PF by some percentage in one of two ways. First, the actual allowances issued by a planner/estimator (P&E) in the Planning Department could be adjusted by some percentage that would bring the standard to the desired level. For example, a P&E could increase or decrease allowances on each

KEYOP line item. However, this approach is time-consuming, costly, and affects other functions using planning allowances such as production scheduling. A less intrusive and less costly approach is to adjust automatically the allowances or expenditures within the system that tracks performance and calculates the incentive awards. With this approach, the standard's difficulty can be adjusted to encourage performance improvement without affecting planning, production control, or cost accounting functions. The PMR system developed to support the incentive system has this capability (see Riedel et al., 1984).

For about 2 years prior to the development of the incentive system, Shop 31 consistently performed about 11 percent below standard. Following the guideline that the performance standard be set or adjusted to a point where the top 20 to 30 percent of the work force is currently performing, the PMR system automatically adjusts the EH by a correction factor of .90. The result is that a nonadjusted PF of .90 would become .99 when the correction factor was used. This brings the standard into a range seen by employees as attainable and thereby worth striving for.

Individual Employee Share

When a foreman's group performance results in man-hour savings (i.e., when man-hour allowances exceed adjusted man-hour expenditures for line items of KEYOPs that closed during the performance period), those saved hours are distributed to members of the work gang. Work gang members earn incentive awards in proportion to the amount of time they worked with the group. This amount of time or "work share" provides the basis for distribution of man-hour savings among group members. Thus, employees who account for a greater portion of the hours worked by the work gang over a period of time earn a larger portion of the group's saved hours. Employees who work in more than one gang have a workshare for each gang and are eligible to earn incentives from each gang that saves man-hours. The sum of an employee's saved hours from each work gang goes into his or her monthly award calculations.

Incentive Period

While the incentive system is based on a 12-week performance period, incentives are calculated and paid every 4 weeks to ensure timeliness of awards. Thus, one-third of the work gang's 12-week man-hour savings are paid out at the end of each 4-week incentive period. Negative monthly man-hour savings are not subtracted from employees' wages and are not carried forward to subsequent months. This allows a work group to have a "fresh" start every 12 weeks.

50/50 Sharing

The value of an employee's saved hours is based on the individual's accelerated hourly wage rate. The acceleration rate (30% was used at NAVSHIPYDPEARL) covers shipyard costs for leave and other employee benefits. Based on a 50 percent sharing rate, the shipyard retains half the value of each saved hour. (In reality, the actual value of a saved hour is probably greater than the accelerated hourly rate since the customer charge for a direct labor hour is over two times the average hourly wage rate.) Thus, an employee's incentive rate, the amount he or she receives in incentive earnings for each saved hour, is equal to half of his or her accelerated hourly wage rate. Multiplying this incentive rate by the employee's monthly saved hours provides the total incentive earnings for that incentive period.

Sample Calculation of Employee Award

Computation of employee incentive awards is accomplished in three steps. First, work gang performance and total saved hours are determined for a given performance period. Next, the saved man-hours are distributed to members of the work gang based on proportional contribution. Finally, the actual incentive award is computed using both the worker's saved hours and his or her incentive rate.

In order to illustrate how a work gang's performance is determined, Table 3 presents an example of the computation of man-hour savings. The work gang under foreman 1 saved a total of 540 hours over the 3 months of February, March, and April. Therefore, his man-hour savings for the April incentive period is 180 ($540/3$) hours. While foreman 2 saved hours in February, the gain was offset by losses in March and April. Since the total EH exceeded the allocated hours by 300 hours, this foreman's man-hour savings is zero. Finally, it can be seen that foreman 3 had man-hour savings of 140 hours for the incentive period. These man-hour savings are the basis for computing the individual employee saved hours and incentive awards, since they indicate how foremen and their work gangs have performed against the standard.

Table 3
Example of Computation of Man-hour Savings for Shop Foremen
for Incentive Period: 2 to 29 April 1983

	5 Feb to 4 Mar	5 Mar to 1 Apr	2 Apr to 29 Apr	Total
<u>Foreman 1</u>				
Man-hours allowed (AH)	1550	1210	1780	4540
Man-hours expended ^a (EH)	1280	1005	1715	4000
Total man-hours saved = $4540 - 4000 = 540$				
Man-hour savings = $540 / 3 = 180$				
<u>Foreman 2</u>				
Man-hours allowed (AH)	1420	1560	1280	4260
Man-hours expended ^a (EH)	1360	1800	1400	4560
Total man-hours saved = $4260 - 4560 = -300 = 0$				
Man-hour savings = 0				
<u>Foreman 3</u>				
Man-hours allowed (AH)	1540	1400	1190	4130
Man-hours expended ^a (EH)	1350	1160	1200	3710
Total man-hours saved = $4130 - 3710 = 420$				
Man-hour savings = $420 / 3 = 140$				

^a Man-hours expended have been multiplied by .90 to adjust for historically low performance factors.

Table 4 presents an example of a computation of the saved hours for a hypothetical group of Shop 31 workers. For sake of simplicity, this example assumes Shop 31 has 3 foremen with each having about 10 workers in the work gang. In practice, this computation will include all production members of Shop 31. It can be seen that worker H. James had 80, 40, and 40 worked hours for foreman #1, foreman #2, and foreman #3, respectively. Since foreman #1 had a total of 1596 hours credited to his work gang for the incentive period, H. James' work share is equal to $80/1596 \times 100 = 5$ percent. Similar computation for his work share yielded 3 percent for both foreman #2 and foreman #3. To determine the saved hours, the work share is multiplied by the man-hours saved by each foreman. Since the man-hours expended by foreman #2 were greater than man-hours allocated, his man-hours saved = 0 (see Table 3). Thus, no worker in his gang was able to obtain saved hours. Therefore, James' saved hours were 9, 0, and 4, for a total of 13 hours for foreman 1, 2, and 3, respectively. In this example, H. James worked a total of 160 hours for the incentive period. B. Lum, however, worked 18 hours for foreman #2 and 113 for foreman #3. Some of Lum's time during the incentive period was charged to accounts other than those covering productive work (e.g., sick leave, annual leave). Line 6 represents an aggregate of the data for the remaining workers. The last line in the Table has the totals for each category. For example, foreman #1 had 1596 total worked hours charged to his foreman's code, his workers' total work share totals to the expected 100 percent, and the man-hours saved of 180 equals the man-hours computed previously in Table 3.

Table 4
Example of Computation of Saved Hours for Shop Workers
for Incentive Period: 2 to 29 April 1983

Employee	Worked Hours			Work Share (%)			Saved Hours		
	F ₁	F ₂	F ₃	F ₁	F ₂	F ₃	F ₁	F ₂	F ₃
1. H. James	80	40	40	5	3	3	9	--	4
2. R. Castro	100	24	--	6	2	--	11	--	--
3. R. Matsumoto	136	--	24	9	--	2	16	--	3
4. B. Lum	--	18	113	--	1	7	--	--	10
5. J. Smith	160	--	--	10	--	--	18	--	--
6. All other workers	1120	1370	1343	70	94	88	126	--	123
Total	1596	1452	1520	100	100	100	180	--	140

Note: Man-hour savings for foreman #1 (F₁) = 180; foreman #2 (F₂) = 0; foreman #3 (F₃) = 140 (see Table 3).

Table 5 provides a computation of the incentive award for a hypothetical Shop 31 worker. The worker, R. Castro, has an incentive rate of \$8.96 per hour based on a sharing rate of 50 percent of his accelerated WG-10, Step 5 salary. Labor card charges are

summarized in Table 5 and account for all the available hours during the incentive period. It can be seen that he worked 100 hours for foreman #1 and 24 for foreman #2. His remaining hours were charged to sick leave and annual leave. His hours worked are taken from the worked hours columns listed after R. Castro in Table 4. His 11 incentive hours are the sum of his saved hours ($11 + 0 + 0 = 11$), taken from saved hours columns in Table 4. Finally, the incentive award is equal to the incentive rate times incentive hours, which equals \$98.56. This amount would be issued by check to R. Castro as his incentive award for the incentive period in April.

Table 5

Example of Computation of Incentive Award for Hypothetical Shop Worker
for Incentive Period: 2 to 29 April 1983

R. Castro (WG-10, Step 5)

Incentive Rate:

(Direct hrly rate)		(Acceleration)		(Accelerated hrly rate)		(Sharing rate)		(Incentive rate)
\$13.78	X	1.30	=	\$17.91	X	50%	=	\$8.96

Labor card charges during incentive period:

Sick leave	=	8 hours
Annual leave	=	28 hours
KEYOPS (foreman #1)	=	100 hours
KEYOPS (foreman #2)	=	24 hours

Incentive hours = (Sum of saved hours)

Foreman #1	=	11
Foreman #2	=	0
Foreman #3	=	0
Total	=	11

Incentive award = (Incentive rate) X (Incentive hours)

Incentive award = \$8.96 X 11 = \$98.56

Sample Calculation of Foreman Award

The major part of the foreman's award is based on the overall performance of Shop 31. The foreman incentive also includes a slight differential in the final amount of the incentive award based on the performance of the foreman's own work gang. Because the actual computation of the foremen's awards will be done manually, the system was designed to be simpler than the worker's system. However, fairness and consistency with OPNAV incentive award guidelines were not compromised. The actual system consists of two components.

Shop Performance and Foreman Award Calculation

Foremen will only receive an award when the overall adjusted PF for Shop 31 exceeds 1.00; that is, when the overall shop's AH, using the adjusted PF, is greater than the total of the EH for KEYOPs closed during the performance period. However, rather than compute the actual saved hours at the end of each incentive period, the expected saved hours at different performance levels have been computed based on a historical analysis of Shop 31 performance data. It was determined that for each one percentage point that the shop exceeds an adjusted PF of 1.00 (e.g., 1.01, 1.02, and 1.03), the shop saves, on the average, 653 hours. This number is based on an average expenditure of approximately 66,000 work hours in a 4-week period.

When the shop's adjusted PF is 1.01, the shop saves 653 hours. With 23 foremen in Shop 31, comprising 4.5 percent of the total shop work force, the foremen's share of those 653 hours is $653 (X) .045 = 29.38$ saved hours. Likewise, each foreman's share is 29.38 divided by 23 or 1.278 saved hours. Hence, when the shop's PF is 1.01, each foreman is credited with 1.278 saved hours. When the shop's PF is 1.02, each foreman receives 1.278 times two or 2.556 saved hours, and so on. It should be noted that each foreman receives the same amount of saved hours independent of the size of work gang or the number of hours he or she expended in the shop during the incentive period.

Work Gang Performance and Foreman Award Calculation

Even when the shop is performing above an adjusted PF of 1.00, the performance of the different foremen will vary. Some will be above the average and some below. In order also to encourage improved work gang performance, foremen whose performance is above the shop average will receive a larger incentive award than foremen whose performance is below the average. However, in no case will the award for high performance exceed 125 percent of the average award nor will the award for below average performance be less than 75 percent of the average award. The actual increase and decrease in the award size for each 1 percent that the foreman is above or below the average shop performance will be 5 percent. For example, if the shop's adjusted performance level is 1.10 and a foreman's performance level is 1.12, the foreman's award would be approximately 10 percent above the average shop award. If the foreman's performance level was 1.06, his award would be 20 percent below the average award.

Given the above parameters, it is now possible to compute actual dollar amounts for foremen awards. Similar to the worker system, the incentive rate for foremen is based on their accelerated hourly salary. Since most foremen are WS-10s, only one rate is used for all foremen. Similarly, the sharing rate is 50 percent. The final incentive rate is computed as follows:

	(Hourly rate WS-10, Step 3)		(Accelera- tion)		(Sharing rate)		(Per saved hour)	
Incentive								
Rate =	\$16.63	x	1.30	x	50%	=	\$10.81.	(2)

For each 1 percent increase in shop performance above an adjusted PF of 1.00, the average foreman award would increase by 1.278 (saved hours) times \$10.81 (incentive rate) = \$13.82. For ease in computing awards, this amount has been rounded off to \$14.00. At a shop performance of 1.01, the average award would be \$14.00, at 1.02, \$28.00, and so on.

In order to simplify the final calculation, Table 6 was prepared. It presents foreman award amounts for different levels of shop performance and different levels of the foreman's work gang performance. For example, using Table 6, it can be seen that if the shop performance during a 4-week incentive period is 1.04, and a foreman's work gang performance is 1.06, the foreman's incentive award would be \$62.00. At this shop performance level, the average award would be \$56.00, the highest award would be roughly 25 percent above \$56.00 or \$68.00, while the lowest award would be roughly 25 percent below \$56.00 or \$44.00.

In some cases, foremen may be assigned full-time to temporary jobs in Shop 31 that do not involve direct production work (e.g., training, serving as a special project coordinator). Since these foremen do not charge time to KEYOPs, they do not have a PF. Nonetheless, their work still contributes to the effectiveness of the shop. For this reason, these foremen still earn money under the incentive system. It will be assumed (for incentive purposes only) that their adjusted PF or their work gang's performance is the shop average. For example, if the shop performance during a 4-week incentive period is 1.06, the foreman's adjusted PF is also 1.06. As can be seen in Table 6, this foreman would receive an award of \$84.00.

AUTOMATED SYSTEM FOR AWARD CALCULATION

Performance Measurement and Reporting System

Although the basic inputs required for measuring performance efficiency were available for Shop 31, a thorough examination of the PM application of the shipyard's MIS revealed several factors that limited the accuracy of the monthly performance efficiency measure. These limitations pointed to the need for a revised PMR system at the shipyard.

To meet this need, personnel from NAVSHIPYDPEARL worked together with NAVPERSRANDCEN representatives to design and develop a new PMR system. This system was designed to resolve the existing PM deficiencies and to limit the need for additional reporting requirements. It uses existing inputs (man-hour expenditures from employee time card charges and man-hour allowances from the Planning Department) to calculate and track more accurate work gang performance measures (Riedel et al., 1984).

The PMR system produces reports in the areas of time accounting, PM, and incentive award calculations. Because the time accounting and PM components of this system could be used to support a variety of performance enhancement methods (e.g., goal setting, performance appraisal, problem-solving teams), these components of the system are described in a separate report (cf. Riedel et al., 1984). The incentive award reports will be described here, however, since they were developed specifically to calculate award amounts for the Shop 31 group incentive system.

Incentive Award Reports

In the following section a brief summary of the purpose and layout of each report is presented. Each of these reports is produced at the end of each 4-week incentive period. A complete listing of the incentive reports by number and title is presented in Appendix B. A detailed description of each report can be found in Appendices C through K.

Table 6

Foreman Incentive Awards^a
(Dollar Amount)

Adjusted Foreman's Work Gang Performance Factor

	0	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130		
Adjusted Shop Performance Factor	99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	101	11	11	11	11	11	11	12	13	14	15	16	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17			
	102	21	21	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35		
	103	32	32	32	32	32	32	34	36	38	40	42	44	46	48	50	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52		
	104	44	44	44	44	44	44	44	44	47	50	53	56	59	62	65	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68		
	105	55	55	55	55	55	55	55	55	58	61	64	67	70	73	76	79	82	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	
	106	64	64	64	64	64	64	64	64	64	68	72	76	80	84	88	92	96	100	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104	
	107	78	78	78	78	78	78	78	78	78	78	78	83	88	93	98	103	108	113	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	
	108	88	88	88	88	88	88	88	88	88	88	88	88	94	100	106	112	118	124	130	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	
	109	96	96	96	96	96	96	96	96	96	96	96	96	102	108	114	120	126	132	138	144	150	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156
	110	105	105	105	105	105	105	105	105	105	105	105	105	105	112	119	126	133	140	147	154	161	168	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175
111	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	130	138	146	154	162	170	178	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186	186		
112	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	136	144	152	160	168	176	184	192	200	208	208	208	208	208	208	208	208	208	208	208	208	208	208		
113	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	146	155	164	173	182	191	200	209	218	227	227	227	227	227	227	227	227	227	227	227	227	227		
114	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	156	166	176	186	196	206	216	226	236	236	236	236	236	236	236	236	236	236	236	236	236	236	236		
115	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	170	180	190	200	210	220	230	240	250	260	260	260	260	260	260	260	260	260	260	260		
116	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	180	191	202	213	224	235	246	257	268	279	279	279	279	279	279	279	279	279	279		
117	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	202	214	226	238	250	262	274	286	286	286	286	286	286	286	286	286	286		
118	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	213	226	239	252	265	278	291	304	304	304	304	304	304	304	304	304	304		
119	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	201	214	227	240	253	266	279	292	305	318	331	331	331	331	331	331	331	331		
120	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	224	238	252	266	280	294	308	322	336	350	350	350	350	350	350	350		

^aComputed for 4-week incentive periods based on Shop 31 historical data.

PM-L21A: Computing Employee Share and Savings from Foreman's Total by Shop, Foreman, and Employee (Name). The PM-L21A report shows how each foreman's saved hours are shared among employees during the incentive period. A summary line just below the column headings lists the total saved hours for the previous 12-week performance period and total work gang labor costs and savings. This report is intended primarily for use by foremen, giving them an overview of work gang performance during the current incentive period.

PM-L21B: Computation of Foreman Work Share and Saved Hours by Shop and Foreman Name. This summary report shows, for each foreman, PF (Field 8), total saved hours, and estimated cost savings during the incentive period. The saved hours for each of the three most recent 4-week periods comprising the 12-week performance period are also listed. This report provides a summary of the data presented in the PM-L21A; thus, information presented for each foreman corresponds to the foreman summary lines of the PM-L21A report. The PM-L21B report is intended for use by foremen, general foremen, the shop incentive coordinator, and the shop superintendent in monitoring performance and cost savings of foremen and their work gangs.

PM-L22A: Summary of Current Period Employee Saved Hours. This report summarizes each worker's saved hours from each work gang to which that worker's hours were charged. All workers in the shop are included in this report regardless of whether they had any saved hours. Worked hours and saved hours are totalled for each worker. Workers are listed in numerical order by badge number. This report is intended primarily for use by the foremen, the shop superintendent, and the shop incentive coordinator as a reference of individual worker saved hours for a particular incentive period.

PM-L24A: Individual Employee Award Report. This report, intended for each employee, shows the amount of the individual's award earnings for the current 4-week incentive period. It also shows the figures that went into the computation of those earnings, including the employee's incentive rate and saved hours from each work gang he or she worked in. Finally, the report shows the employee's total current award amount (any previous unpaid balance plus current earnings) and total incentive earnings to date.

PM-L24B: Individual Awards--Employee Adjustments. This report provides a summary of the adjustments made to employee award amounts and an explanation for each adjustment. Manual adjustments can be made to correct incentive award amounts that may be in error due to exceptional situations (e.g., premature or accidental closure of a KEYOP). This report is intended for use by the shop superintendent and shop incentive coordinator as a reference for all adjustments made to award amounts produced by the system.

PM-L25A: Employee Awards Certification and Recommendation Report. This report indicates the award amount earned by qualifying employees, those with an accumulated award balance greater than \$25.00 for the incentive period. The report is the official Incentive Award Request and has the certification statement and signature blocks required for award recommendation and approval.

PM-L25B: Employee Awards Certification and Recommendation Report. This report uses the same format as the PM-L25A report, but rather than listing employees who qualify for an award, lists employees whose incentive account balances are less than \$25.00, that is, employees who will not receive awards for the current incentive period. Together, the PM-L25A and PM-L25B list all shop employees and their incentive award

earnings as of the current 4-week award period. This report is intended for use by the shop superintendent, shop incentive coordinator, and Employee Services Division (Code 165).

PM-L25C: Shop/Employee Awards History Report. This report provides current and historical information on each employee's earnings (e.g., previous balance, current earnings, adjustments, earnings to date, etc.). Employees are listed in badge number sequence. This report is intended for use by the shop superintendent and shop incentive coordinator.

PM-L25D: Shop/Employee Awards History Report by Name X Shop. This report provides virtually the same information as the PM-L25C report, except that employees are listed in alphabetical order for easier reference by the personnel department. Two fields from the PM-L25C, current and cumulative saved hours, are replaced with calendar year earnings to date. This report is intended for use by the shipyard personnel office.

CONCLUSIONS AND RECOMMENDATIONS

1. The group-based incentive award system designed expressly for use in the Operations Department at Pearl Harbor Naval Shipyard conforms to attributes of effective incentive plans as well as Navy incentive awards policy. The desirability of expanding the system to nonproduction employees should be ascertained.

2. Since the system was designed expressly for a naval shipyard, it could be extended to other shipyards' production or operations departments as well.

3. The system is automated, and thus its operation requires minimal administrative assistance from support codes.

4. The incentive system responds directly to the service-wide need for new management techniques and structures to improve worker motivation and performance. As such, the system addresses the challenge to provide effective and efficient maintenance and repair to an expanding inventory of ships and ship systems.

5. The new system creates an additional incentive and mechanism for improving cost and schedule control, two areas of current interest in Navy shipyards. The extent to which the system can be used to address these and other current Naval Sea System Command initiatives to improve shipyards should be investigated.

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APPENDIX A
MERITS AND LIMITATIONS OF INDIVIDUAL, GROUP,
AND ORGANIZATION-WIDE PLANS

INDIVIDUAL PLANS

Merits

1. The employee is rewarded in direct relation to output. The employee perceives that pay is tied closely to performance (Marriott, 1968; Patten, 1977).
2. The plan is simple to understand, and the incentive award is simple to calculate (Marriott, 1968; Patten, 1977).
3. The plan is simple to implement (Marriott, 1968).
4. Productivity is increased (Farr, 1976; Katzell & Yankelovich, 1975; Lawler, 1971; London & Oldham, 1977).
5. Individual plans usually increase productivity more than group plans (Babchuk & Goode, 1951; Marriott, 1949).

Limitations

1. There may be a tendency for employees to restrict their output (Fein, 1971; Katzell & Yankelovich, 1975; Lawler, 1971; Opsahl & Dunnette, 1966; Patten, 1977).
2. The plan encourages dysfunctional competition among employees (Lawler, 1971; Patten, 1977).
3. It is restricted to repetitive, standardized, relatively simple, independent operations (Patten, 1977).
4. The plan rarely includes all employees (Patten, 1977).
5. Productivity increases are difficult to maintain over the long run (Fein, 1971; Patten, 1977).

GROUP PLANS

Merits

1. Group plans acknowledge the interdependence of much of what happens in the workplace. They are useful when individual performance is difficult to measure (Katzell & Yankelovich, 1975; Lawler, 1971).
2. Group plans encourage cooperation, particularly intra-group cooperation, helping to build team spirit (Lawler, 1971; Marriott, 1968; Maynard, 1971; Patten, 1977; Rubenstein, Watzke, Doktor, & Dana, 1975; Staudohar, 1975).
3. Nonfinancial as well as financial rewards may result. The working environment may become more pleasant (Patten, 1977).
4. Supervision and new worker training may be reduced; new workers are helped by group members (Maynard, 1971).
5. Employees working on indirect labor may be included in the plan (Marriott, 1968; Maynard, 1971).

6. Employees are assigned to jobs they can do well, and also may be moved to different operations as needed (Marriott, 1957; Maynard, 1971).

7. Time-study, cost, clerical, and inspection systems are simplified (Marriott, 1957; Maynard, 1971).

8. Absenteeism is reduced due to group peer pressure (Maynard, 1971).

9. Productivity improvements and incentive earnings tend to be more stable than under individual plans (Maynard, 1971).

Limitations

1. It is difficult for the employee to see a relationship between personal performance and incentive pay. The employee is not rewarded in direct relationship to his or her productivity ("A Vote for Individual Incentive Plans," 1979; Lawler, 1971; Marriott, 1957; Opsahl & Dunnette, 1966; Patten, 1977).

2. Productivity improvement is generally lower than under individual plans (Babchuk & Goode, 1951; Lawler, 1971; Marriott, 1949).

3. Group restriction norms may develop. Group pressures may induce employees to work below their potential (Lawler, 1971; Opsahl & Dunnette, 1966; Patten, 1977).

4. There is a lack of individual incentive. Poor performers are over-rewarded; high performers are under-rewarded and may be dissatisfied with the efforts of less productive workers ("A Vote for Individual Incentive Plans," 1979; Marriott, 1957; Maynard, 1971; Patten, 1977).

5. There is no check on the standards of individual jobs and on the performance of individuals (Maynard, 1971).

6. The plan may encourage dysfunctional inter-group competition (Patten, 1977).

7. Calculation of earnings may be difficult (Marriott, 1957).

8. Fluctuations in the composition of groups may cause problems (Marriott, 1957).

9. Productivity increases are difficult to maintain over the long run (Fein, 1971, 1973; Staudohar, 1975).

ORGANIZATION-WIDE PLANS

Merits

1. Employees are encouraged to participate in problem solving and decision making. Workers produce ideas as well as effort (Moore, 1975; Patten, 1977).

2. Cooperation, teamwork, and sharing knowledge at lower levels are enhanced (Moore, 1975; Patten, 1977).

3. Employee's belief that negative consequences will follow good performance is diminished, and nonfinancial rewards as well as financial rewards may be tied to good performance (Lawler, 1971; Patten, 1977).

4. The plans are applicable to management and nonmanagement, to direct and indirect workers, and to organizations not engaged in standard production work. All employees of the firm may be included (Marriott, 1957; Patten, 1977).

5. They are economical to install and operate (Marriott, 1957).

6. Employees' and firm's goals are similar (Marriott, 1957; Patten, 1977).

7. Attention is focused on cost saving, not on quantity alone (Marriott, 1957; Moore, 1975).

8. Acceptance of change due to technology, market conditions, and new demands is greater since higher organizational efficiency leads to bonuses (Marriott, 1957; Moore, 1975; Patten, 1977).

9. Workers try to reduce overtime by working smarter (Marriott, 1957; Moore, 1975).

10. There is greater employee awareness of company sales problems and difficulties in beating competitors (Patten, 1977).

11. There are more realistic collective bargaining negotiations and fewer grievances (Patten, 1977).

Limitations

1. The employee is not financially rewarded in direct relation to personal productivity. It is difficult for the employee to perceive a relationship between his or her performance and earnings. Organization-wide plans separate, even further than group plans, the connection between individual effort and pay (Lawler, 1971; Marriott, 1957; Patten, 1977).

2. It is difficult to determine the effect of the new pay system per se, since most plans involve a number of other organizational changes (Lawler, 1971; Patten, 1977).

3. There is a lack of individual incentive. Relative to low performers, high performers may believe they are being penalized. If high performers think they are carrying low performers, cooperation may be impaired (Marriott, 1957).

4. A fair measurement of an organization's performance may be impossible; the performance norm is difficult to adjust in the face of changing conditions (Moore, 1975; Patten, 1977).

5. Front-line supervisors may feel threatened by the participation and suggestion systems that are a part of many organization-wide plans (Moore, 1975; Patten, 1977).

6. Use of these plans has generally been limited to small organizations; that is, mainly to organizations with fewer than 1,000 employees (Lawler, 1971; Moore, 1975; Patten, 1977).

7. These plans have been used mainly by manufacturers (Moore, 1975), so their broader applicability is unknown.

APPENDIX B

**PERFORMANCE MEASUREMENT AND REPORTING SYSTEM
INCENTIVE REPORTS**

**PERFORMANCE MEASUREMENT AND REPORTING SYSTEM
INCENTIVE REPORTS**

<u>Report</u>	<u>Title</u>
PM-L21A	Computing Employee Share and Savings from Foreman's Total by Shop, Foreman, and Employee (Name)
PM-L21B	Computation of Foreman Work Share and Saved Hours by Shop and Foreman Name
PM-L22A	Summary of Current Period Employee Saved Hours
PM-L24A	Individual Employee Award Report
PM-L24B	Individual Awards--Employee Adjustments
PM-L25A	Employee Awards Certification and Recommendation Report
PM-L25B	Employee Awards Certification and Recommendation Report
PM-L25C	Shop/Employee Awards History Report
PM-L25D	Shop/Employee Awards History Report by Name X Shop

APPENDIX C

**COMPUTING EMPLOYEE SHARE AND SAVINGS FROM FOREMAN'S
TOTAL BY SHOP, FOREMAN, AND EMPLOYEE (NAME) (PM-L21A)**

PM-L21A

COMPUTING EMPLOYEE SHARE AND SAVINGS FROM FOREMANS TOTAL

ISSUE DATE 31 DEC 83

BY SHOP, FOREMAN AND EMPLOYEE(NAME)

PERIODS COVERING NOV 05 TO JAN 27

PAGE 1

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
GRP SH	FOREMAN/EMPL.	T	BADGE	OCCUP.	WORK	PERF.	SAVED	SAVING OF 3 PERIODS	APPROX.	AVG HRLY	ESTIMATED	O.T.			
SHF OP	CODE AND NAME	E	NO.	CODE	HOURS	W/SHARE	HOURS	CURR. # 2 # 3	LBR. COST	RATE	\$ SAVINGS	HOURS			
930 31 20	MAAG	1	14342	WS10-5	2244.0	1.021	27.7	29.2 90.6 36.6-	30,276.59	13.49	373.67	171.0			
930	AARON	2	07513	WG10-3	8.0	0.003	.0		106.40	13.30	.00	8.0			
930	ABAD	2	97072	WG10-5	178.0	0.079	2.1		2,550.74	14.33	30.09	34.0			
930	CABAL	2	50992	WG10-5	16.0	0.007	.1		229.28	14.33	1.43	.0			
930	CAPLES	2	44313	WG08-5	16.0	0.007	.1		207.52	12.97	1.29	.0			
930	DALTON	2	52902	WG10-5	39.0	0.017	.4		558.87	14.33	5.73	.0			
930	FISCH	2	60853	WT10-5	12.0	0.005	.1		126.60	10.55	1.05	.0			
930	FORT	2	71213	WG10-3	32.0	0.014	.3		425.60	13.30	3.99	.0			
930	GORMAN	2	00402	WG10-5	40.0	0.017	.4		573.20	14.33	5.73	.0			
930	HAYS	2	59702	WG10-5	168.0	0.073	2.0		2,378.78	14.33	28.66	16.0			
930	HORTT	2	98023	WG08-5	40.0	0.017	.4		518.80	12.97	5.18	.0			
930	IRWIN	2	97923	WG10-2	172.5	0.076	2.1		2,206.27	12.79	26.85	32.5			
930	KELLER	2	52462	WG10-4	8.0	0.003	.0		110.48	13.81	.00	.0			
930	KIVA	2	07232	WG10-5	8.0	0.003	.0		114.64	14.33	.00	.0			
930	LOOMIS	2	39071	WG10-5	103.0	0.045	1.2		1,475.99	14.33	17.19	.0			
930	LYNN	2	15282	WG10-5	108.0	0.048	1.3		1,547.64	14.33	18.62	.0			
930	LYTLE	2	99013	WG10-4	8.0	0.003	.0		110.48	13.81	.00	.0			
930	MARBY	2	49013	WG10-2	22.0	0.009	.2		281.38	12.79	2.55	.0			
930	MATEZ	2	09662	WG10-5	16.0	0.007	.1		229.28	14.33	1.43	.0			
930	MEYER	2	82982	WG10-5	8.0	0.003	.0		114.64	14.33	.00	.0			
930	ORTEGA	2	67513	WG10-3	4.0	0.001	.0		53.20	13.30	.00	.0			
930	PROVOST	2	88223	WG10-3	141.0	0.062	1.7		1,875.30	13.30	22.81	.0			
930	PYE	2	42763	WG05-2	166.0	0.073	2.0		1,621.82	9.77	19.54	16.0			
930	POVAR	2	53823	WG08-3	4.0	0.001	.0		48.20	12.05	.00	.0			
930	QUIST	2	00892	WG10-5	16.0	0.007	.1		229.28	14.33	1.43	.0			
930	RICKMAN	2	50562	WG10-5	160.0	0.071	1.9		2,292.80	14.33	27.22	16.0			
930	SEATON	2	95892	WG10-5	16.0	0.007	.1		229.28	14.33	1.43	.0			
930	TEPPER	2	13413	WG10-2	150.0	0.066	1.8		1,918.50	12.79	23.02	.0			
930	TINO	2	69013	WG10-2	141.0	0.062	1.7		1,803.39	12.79	21.74	8.0			
930	TRIPP	2	90052	WG10-5	151.0	0.067	1.8		2,163.83	14.33	25.79	.0			
930	TROUTT	2	74462	WG10-5	136.0	0.060	1.6		1,948.88	14.33	22.92	16.0			
930	VOGEL	2	83903	WG10-3	32.5	0.014	.3		432.25	13.30	3.99	16.5			
930	WESLEY	2	42333	WG10-2	8.0	0.003	.0		102.32	12.79	.00	8.0			
930	YESSSEN	2	80072	WG10-5	118.0	0.052	1.4		1,690.94	14.33	20.06	.0			

Note. Names and badge numbers have been changed to protect the privacy of shop employees.

REPORT NUMBER: PM-L21A

REPORT TITLE: COMPUTING EMPLOYEE SHARE AND SAVINGS FROM FOREMAN'S
TOTAL BY SHOP, FOREMAN, AND EMPLOYEE (NAME)

The PM-L21A report, issued at the end of each 4-week incentive period, shows how each foreman's saved hours are shared among employees during the incentive period. A summary line just below the column headings lists the total saved hours for the previous 12-week performance period and total work gang labor costs and savings. This report is intended primarily for use by foremen, giving them an overview of work gang performance during the current incentive period.

<u>Field</u>	<u>Title</u>	<u>Description</u>
1	GRP SHP	The production shop group to which the shop shown in Field 2 belongs: e.g., 920 = Structural Shop Group 930 = Mechanical Shop Group 950 = Electrical/Electronics Shop Group 970 = Service Shop Group
2	SHOP	The shop to which the foreman is assigned: e.g., 23 = Forge and Propeller Shop 31 = Inside Machine Shop 38 = Outside Machine Shop
3	FOREMAN/EMPL. CODE AND NAME	Worker lines show the employee's last name. On the foreman summary line, the foreman's last name and a two-digit foreman code are shown. This foreman code is used to identify the foreman's work gang to which the worker's hours are charged.
4	TE	Type Employee: 1 = supervisor 2 = non-supervisor 9 = temporary The supervisor code refers to both foremen and general foremen. The non-supervisor code includes all other permanent employees. The temporary code is used to designate employees hired for a fixed term of employment.
5	BADGE NO.	Foreman or worker badge number.
6	OCCUP. CODE	Civil Service wage grade level and pay step.
7	WORK HOURS	Worker lines show all labor hours charged to that worker (excluding leave, loan, and rejected charges) by the foreman during the current (most recent) 4 weeks. The foreman summary line shows the sum of the work hours charged to each worker who was assigned to the foreman's workgang during the current 4 weeks.

8 PERF. W/SHARE Worker lines show the worker's share of total work gang work hours during the most recent 4 weeks. This share is obtained by dividing each worker's work hours (worker lines, Field 7) by total work gang work hours (summary line, Field 7). The foreman summary line shows the work gang performance factor creditable to the most recent 4 weeks, based on the work gang's performance during the 12-week performance period. The performance factor is computed by dividing total allowed hours by total expended hours for all work completed during the 12-week performance period.

9 SAVED HOURS Worker lines show each worker's share of the work gang's saved hours creditable to the most recent 4 weeks, based on work gang performance during the 12-week performance period. Saved hours are obtained by multiplying work gang saved hours (summary line, Field 9) by the worker's performance work share (worker line, Field 8), and rounding to the nearest .1 hour. The formula for worker saved hours is as follows:

Worker Saved Hours = Work Gang Saved Hours x Worker's Performance Work Share

The foreman summary line shows the proportion of total work gang saved hours during the 12-week performance period that is creditable to the current 4 weeks. If work gang saved hours are positive, they equal the sum of individual saved hours. If work gang saved hours are negative, worker saved hours are shown as zero. Fields 10 through 12 are used to compute the formula for work gang saved hours:

$$\text{Work Gang Saved Hours} = \frac{\text{Saved Hours Current 4 Weeks} + \text{Saved Hours Period 2} + \text{Saved Hours Period 3}}{3}$$

SAVING OF 3 PERIODS
 10 CURR.
 11 #2
 12 #3

Work gang saved hours for each of the three 4-week periods comprising the 12-week performance period:
 Current = The most recent 4 weeks.
 Period 2 = The 4 weeks previous to Current.
 Period 3 = The 4 weeks previous to Period 2.

13 APPROX. LBR. COST Worker lines show individual labor costs charged to a foreman during the current 4 weeks. These costs are computed by multiplying individual work hours (worker lines, Field 7) by the individual's hourly wage rate (worker lines, Field 14), and rounding to the nearest cent. The foreman summary line shows total work gang labor costs, computed in the same manner, using work gang work hours (summary line, Field 7) multiplied by

average work gang labor costs (summary line, Field 14). The formula is as follows:

$$\text{Labor Cost} = \text{Work Hours} \times \text{Average Hourly Rate}$$

- | | | |
|----|-------------------------|---|
| 14 | AVG HRLY RATE | Worker lines show each worker's hourly pay rate. The foreman summary line shows the average hourly pay rate for that foreman's work gang. This rate is computed by summing the pay rates of the workers who worked in the foreman's work gang during the current 4 weeks and dividing by the number of workers. |
| 15 | ESTIMATED
\$ SAVINGS | Worker lines show the worker's share of the work gang's total cost savings. Worker cost savings are computed by multiplying individual saved hours (worker lines, Field 9) by the worker's hourly pay rate (worker lines, Field 14), and rounding to the nearest cent. If cost savings are negative, a zero is shown. The foreman summary line shows total work gang cost savings. This figure is based on total work gang saved hours (summary line, Field 9) multiplied by the average hourly pay rate (summary line, Field 14), rounded to the nearest cent. |
| 16 | O.T. HOURS | Worker lines show each worker's overtime hours charged to the foreman shown during the current 4 weeks. The foreman summary line shows total work gang overtime hours during the current 4 weeks. These hours are obtained by summing individual worker overtime hours. |

APPENDIX D

**COMPUTATION OF FOREMAN WORK SHARE AND SAVED HOURS
BY SHOP AND FOREMAN NAME (PM-L21B)**

COMPUTATION OF FOREMAN WORK SHARE AND SAVED HOURS

ISSUE DATE 31 DEC 83

BY SHOP AND FOREMAN NAME

PERIODS COVERING NOV 05 TO JAN 27

PAGE 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
GRP	SH	FOREMAN/EMPL.	T	BADGE	OCCUP.	WORK	PERF.	SAVED	SAVINGS	OF 3 PERIODS		APPROX.	AVG HRLY	ESTIMATED	O.T.
SHP	OP	CODE AND NAME	E	NO.	CODE	HOURS	W/SHARE	HOURS	CURR.	#2	#3	LBR. COST	RATE	\$ SAVINGS	HOURS
930	31	25 JOHNS	1	97322	WS10-5	1373.0	0.990	9.5-	116.6-	123.7	35.6-	19,151.09	13.94	132.43-	39.0
930	31	26 LOY	1	51307	WS13-5	1375.0	0.501	18.0-	3.5-	8.9-	41.5-	20,111.92	14.62	283.16-	.0
930	31	27 JONES	1	55214	WS10-5	3740.0	1.070	207.4	167.3	334.3	120.5	49,497.58	13.23	2,743.90	279.0
930	31	28 DAHL	1	54901	WS10-5		0.576	75.0-	7.3-	4.6	222.3-				
930	31	29 FISHER	1	21317	WS10-5	1293.0	0.966	30.5-	61.9	1.6	154.9-	17,387.93	13.44	409.92-	3.0
930	31	30 HINES	1	70295	WS10-2	16.0	0.532	157.3-	7.8	6.2-	473.5-	204.64	12.79	2,011.86-	.0
930	31	31 LITTLE	1	45149	WS10-3	2689.9	0.719	320.1-	145.4-	421.8-	393.0-	34,129.70	12.68	4,058.86-	325.9
930	31	32 KARL	1	34123	WS10-3	2101.1	0.933	80.6-	49.3-	87.5-	104.9-	25,008.02	11.90	959.14-	38.1
930	31	33 MERTZ	1	28215	WS10-5	1521.0	0.950	29.7-	138.1-	9.7-	58.8	20,077.76	13.20	392.04-	157.0
930	31	34 CARLIN	1	32178	WS10-5	66.0	1.045	13.7	44.0	7.8-	4.8	927.96	14.06	192.82	.0
930	31	35 SMITH	1	33241	-	28.0	1.132	6.4	18.4	.8	.0	372.40	13.30	85.12	.0
930	31	36 LANG	1	31121	WS10-5	713.0	0.990	7.7-	179.5-	23.8-	180.2	9,605.59	13.47	103.71-	126.0
930	31	37 HARRIS	1	66123	WS10-5	744.0	0.802	.5-	1.4-	.0	.0	8,495.14	11.41	8.70-	2.0
930	31	38 ABLE	1	45786	WS10-5		0.765	22.5-	10.3-	.9-	56.3-				
930	31	39 BELL	1	22775	WS13-5	582.0	1.111	.3	.0	.8	.0	7,774.14	13.35	4.00	.0
930	31	40 LONGS	1	89965	WS13-5	8.0	0.000	.0	.0	.0	.0	93.36	11.67	.00	8.0
930	31	41 LYLE	1	49123	WS10-5	32.0	0.974	6.6-	7.7	2.6-	24.9-	409.28	12.79	84.41-	.0
930	31	42 CRAIG	1	41223	WS10-5		0.974	7.0-	.1-	10.2-	10.7-				
930	31	43 POPE	1	41575	WS10-5	3905.0	0.989	13.3-	30.6-	98.4-	89.0	52,977.41	13.56	180.34-	495.0
930	31	44 SIMPSON	1	48671	WS10-5	40.0	0.801	17.2-	18.9-	.3-	32.4-	548.56	13.71	235.81-	.0
930	31	45 SMITH	1	96336	WS10-2	40.0	0.929	19.9-	107.5-	9.5-	57.3	556.72	13.91	276.80-	32.0
930	31	47 CARLTON	1	22382	WS10-4	927.0	1.058	23.4	7.6	83.1	20.4-	12,279.29	13.24	309.81	64.0
930	31	48 PEARL	1	57556	WS10-1	2282.6	0.872	189.5-	96.4-	239.6-	232.5-	29,548.37	12.94	2,452.13-	185.6

Note. Names and badge numbers have been changed to protect the privacy of shop employees.

REPORT NUMBER: PM-L21B

REPORT TITLE: COMPUTATION OF FOREMAN WORK SHARE AND SAVED HOURS
BY SHOP AND FOREMAN NAME

The PM-L21B report, issued at the end of each 4-week incentive period, shows, for each foreman, performance factor, total saved hours, and estimated cost savings during the incentive period. The data presented are identical to the foreman summary lines of the PM-L21A reports. These reports are intended primarily for use by foremen, general foremen, the Shop Superintendent, and the Shop Incentive Coordinator to allow comparison of current performance across work gangs.

<u>Field</u>	<u>Title</u>	<u>Description</u>
1	GRP SHP	The production shop group to which the shop shown in Field 2 belongs: e.g., 920 = Structural Shop Group 930 = Mechanical Shop Group 950 = Electrical/Electronics Shop Group 970 = Service Shop Group
2	SHOP	The shop to which the foreman is assigned: e.g., 23 = Forge and Propeller Shop 31 = Inside Machine Shop 38 = Outside Machine Shop
3	FOREMAN/EMPL. CODE AND NAME	Foreman's last name and a two-digit foreman code. This foreman code is used to identify the foreman's work gang to which the worker's hours are charged.
4	TE	Type employee: 1 = supervisor 2 = non-supervisor 9 = temporary The supervisor code refers to both foremen and general foremen. The non-supervisor code includes all other permanent employees. The temporary code is used to designate employees hired for a fixed term of employment.
5	BADGE NO.	Foreman or worker badge number.
6	OCCUP. CODE	Civil Service wage grade level and pay step.
7	WORK HOURS	The sum of the labor hours charged to all workers assigned to the foreman's work gang during the current 4 weeks.
8	PERF. W/SHARE	Work gang performance factor creditable to the current 4 weeks, based on the work gang's performance during the 12-week performance period. The performance factor is computed by dividing total allowed hours by

total expended hours, for all work completed during the 12-week performance period.

9 SAVED HOURS

The proportion of total work gang saved hours during the 12-week performance period creditable to the current 4 weeks. If work gang saved hours are positive, they equal the sum of individual saved hours. If work gang saved hours are negative, worker saved hours are shown as zero. Fields 10 through 12 are used to compute the formula for work gang saved hours:

$$\text{Work Gang Saved Hours} = \frac{\text{Saved Hours Current 4 Weeks} + \text{Saved Hours Period 2} + \text{Saved Hours Period 3}}{3}$$

10 SAVINGS OF 3 PERIODS
11 CURR.
12 #2
#3

Work gang saved hours for the three 4 week periods comprising the 12-week performance period:

Current = The most recent 4 weeks.

Period 2 = The 4 weeks previous to Current.

Period 3 = The 4 weeks previous to Period 2.

13 APPROX. LBR. COST

Total work gang labor costs. These costs are computed by multiplying work gang work hours (Field 7) by average work gang labor costs (Field 14). The formula is as follows:

$$\text{Labor Cost} = \text{Work Hours} \times \text{Average Hourly Rate}$$

14 AVG HRLY RATE

Average work gang pay rate. This rate is computed by summing the pay rates of the workers who worked in the foreman's work gang during the current 12-week performance period and dividing by the number of workers.

15 ESTIMATED \$ SAVINGS

Total work gang cost savings. This figure is based on total work gang saved hours (Field 9) multiplied by the average hourly pay rate (Field 14), rounded to the nearest cent. Due to rounding, this figure may be inexact.

16 O.T. HOURS

Total work gang overtime hours during the current 4 weeks. These hours are obtained by summing individual worker overtime hours.

APPENDIX E
SUMMARY OF CURRENT PERIOD EMPLOYEE
SAVED HOURS (PM-L22A)

SUMMARY OF CURRENT PERIOD EMPLOYEE SAVED HOURS
PERIOD COVERING DEC 31 JAN 27ISSUE 31 DEC 83
DATA 30 DEC 83

1	2	3	4	5	6	7	8	9	10	11	12
GRP	SH	E M P L O Y E E		OCCUP	WORK	WORK	EMPLOYEE	OT/HOL	F O R E M A N	PERFORM	FOREMAN
SHP	OP	BADGE # & NAME		CODE	HOURS	SHARE	SAVE HOURS	HOURS	CODE & NAME	-ANCE	SAVE HOURS
		OWENS			152.0 ***		.0 ***				
930	31	2-13448	GAINES	WG11	8.0	0.003	.0	.0	21 LEE	1.007	17.6
930	31	2-13448	GAINES	WG11	112.0	0.029	6.0	16.0	27 ABBOTT	1.070	207.4
930	31	2-13488	GAINES	WG11	16.0	0.004	.0	.0	43 MAYS	0.989	13.3-
		GAINES			136.0 ***		6.0 ***				
930	31	2-13492	GOMEZ	WG10	103.0	0.012	.0	26.0	00 *UNLISTED*	0.747	6369.9-
930	31	2-13492	GOMEZ	WG10	72.0	0.019	3.9	.0	27 ABBOTT	1.070	207.4
		GOMEZ			175.0 ***		3.9 ***				
930	31	2-13493	CHUN	WG10	8.0	0.000	.0	8.0	00 LEE	0.747	6369.9-
930	31	2-13493	CHUN	WG10	144.0	0.057	1.0	.0	21 LEE	1.007	17.6
		CHUN			152.0 ***		1.0 ***				
930	31	2-13501	FUJIKO	WG10	8.0	0.000	.0	.0	00 *UNLISTED*	0.747	6369.9-
930	31	2-13501	FUJIKO	WG10	141.0	0.109	.0	.0	29 LEE	0.966	30.5-
		FUJIKO			149.0 ***		.0 ***				
930	31	2-13511	ROYLES	WG10	34.0	0.004	.0	.0	00 *UNLISTED*	0.747	6369.9-
930	31	2-13511	ROYLES	WG10	75.7	0.020	4.1	.7	27 ABBOTT	1.070	207.4
		ROYLES			109.7 ***		4.1 ***				
930	31	2-13517	CARR	WG10	148.0	0.039	8.0	16.0	27 ABBOTT	1.070	207.4
		CARR			148.0 ***		8.0 ***				
930	31	2-13521	HOY	WG10	127.0	0.092	.0	7.0	25 RIVERS	0.990	9.5-
		HOY			127.0 ***		.0 ***				
930	31	2-13533	MALCOLM	WG10	106.0	0.060	.0	5.0	22 SHAW	0.948	135.1-
930	31	2-13533	MALCOLM	WG10	8.0	0.001	.0	.0	23 FRAME	0.730	522.4-
930	31	2-13533	MALCOLM	WG10	8.0	0.200	.0	8.0	45 JOHNSON	0.929	19.9-
		MALCOLM			122.0 ***		.0 ***				
930	31	2-13541	OSWELL	WG10	68.0	0.044	.0	8.0	33 WATSON	0.950	29.7-
930	31	2-13541	OSWELL	WG10	24.0	0.033	.0	.0	36 SHADDEN	0.990	7.7-
930	31	2-13541	OSWELL	WG10	56.0	0.014	.0	16.0	43 MAYS	0.989	13.3-
930	31	2-13541	OSWELL	WG10	8.0	0.200	.0	.0	44 HAWKE	0.801	17.2-
		OSWELL			156.0 ***		.0 ***				
930	31	2-13549	ROSEN	WG10	8.0	0.000	.0	.0	00 *UNLISTED*	0.747	6369.9-

Note. Names and badge numbers have been changed to protect the privacy of shop employees.

REPORT NUMBER: PM-L22A

REPORT TITLE: SUMMARY OF CURRENT PERIOD EMPLOYEE SAVED HOURS

The PM-L22A report, issued at the end of the 4-week incentive award period, summarizes each worker's saved hours from each work gang to which that worker's hours were charged. All workers in the shop are included in this report regardless of whether they had saved hours. Worked hours and saved hours are totalled for each worker. Workers are listed in numerical order by badge number. This report is intended primarily for use by the foremen, the shop superintendent, and the shop incentive coordinator as a reference of individual worker saved hours.

Field	Title	Description
1	GRP SHP	The production shop group to which the shop shown in Field 2 belongs: e.g., 920 = Structural Shop Group 930 = Mechanical Shop Group 950 = Electrical/Electronics Shop Group 970 = Service Shop Group
2	SHOP	The shop to which the foreman is assigned: e.g., 23 = Forge and Propeller Shop 31 = Inside Machine Shop 38 = Outside Machine Shop
3	EMPLOYEE BADGE #	Worker badge number (prefix of 2 designates non-supervisor).
4	& NAME	Worker's last name.
5	OCCUP CODE	Civil Service wage grade level.
6	WORK HOURS	All labor hours charged to each worker (excluding leave, loan, and rejected charges) during the current 4 weeks. Hours are shown by each foreman to whom the worker's labor hours were charged, and are summed to show total hours for each worker during the current 4 weeks.
7	WORK SHARE	Worker's share of total work gang worked hours during the current 4 weeks. These shares are obtained from Field 8 of the PM-L21A (see Appendix C). Separate work shares are shown for each foreman to whom the worker's labor hours were charged during the current 4 weeks.
8	EMPLOYEE SAVE HOURS	Worker's share of the work gang's saved hours during the 12-week performance period creditable to the current 4 weeks. Obtained by multiplying work gang saved hours (PM-L21A summary line, Field 9) by the worker's performance work share (PM-L21A worker line, Field 8), and rounding to the nearest .1 hour. The formula for worker saved hours is as follows:

Worker Saved Hours = Work Gang Saved Hours x Worker's Performance Work Share

- 9 OT/HOL HOURS Total weekend and holiday overtime hours charged to the current 4 weeks, listed by foreman to whom the employee's hours were charged. Workers are paid at higher overtime rates for these hours, but saved hours earned on overtime are paid at the same rate as saved hours earned during normal working hours.
- 10 FOREMAN CODE & NAME The two-digit foreman code of each foreman to whom the worker's hours were charged during the current 4 weeks followed by the foreman's last name. Time card errors or the omission of the foreman code on time cards causes *UNLISTED* to be printed instead of the foreman name.
- 11 PERFORMANCE Work gang performance factor creditable to the current 4 weeks, based on the work gang's performance during the 12-week performance period. A performance factor is shown for each foreman to whom the worker's hours were charged. The performance factor is computed by dividing total work gang allowed hours by total work gang expended hours, for all work completed during the 12-week performance period.
- 12 FOREMAN SAVE HOURS The proportion of total work gang saved hours during the 12-week performance period creditable to the current 4 weeks. Foreman saved hours are derived from Field 9 of the PM-L21B (Appendix D).

APPENDIX F
INDIVIDUAL EMPLOYEE AWARD REPORT (PM-L24A)

INDIVIDUAL EMPLOYEE AWARD REPORT

ISSUE DATE 01 FEB 84

PERIOD COVERING DEC 31 JAN 27

DATA DATE 27 JAN 84

1 GROUP/SHOP CODES	2 TYP EMP	3 BADGE NR.	4 ***** E M P L O Y E E ***** LAST NAME	5 ***** FIRST	6 OCCUPATION CODE P-STEP	7 SH- IFT	8 SOCIAL SECURITY NR.	9 INCENTIVE RATE	10 SEPARATION CODE	11 DATE
930 31	2	2-13488	GRIFFITH	GENE	W010 - 5	1	001-21-4335	9.31	NOT APPLICABLE	

10 **** FOREMAN DATA **** WORKED FOR CODE NAME	11 TOTAL WORK HRS.	12 SAVED HOURS	13 **** E M P L O Y E E S H A R E **** WORK HOURS	14 WORK SHARE	15 SAVED HOURS	16 INCENTIVE EARNINGS	17 EXPLANATION AND/OR REASON FOR ADJUSTMENT
00 *UNLISTED*	8472.3	.0	16.0	0.001	.0	.00	SUPV CODE NOT ON TIME CARD
21 GREY	2463.2	53.4	64.0	0.033	1.8	16.76	FOREMAN SAVED HOURS ADJUSTED
23 MATTS	4237.6	522.4-	6.0	0.001	.0	.00	
33 LAW	1521.0	29.7-	4.0	0.002	.0	.00	
48 NEWBY	2282.6	189.5-	2.0	0.000	.0	.00	
** CURRENT PERIOD TOTALS **			112.0		1.8	16.76	

F-1

18 PREVIOUS ENDING BALANCE	19 CURRENT INCENTIVE EARNED	20 ADJUSTMENT TO CURRENT PERIOD AMOUNT REASON	21 NET AWARD AFTER ADJUSTMENT	22 PAYMENT THIS PERIOD	23 NEW ENDING BALANCE	24 CALENDAR YEAR EARNINGS	25 CUMULATIVE TO-DATE EARNINGS
.00	16.76	---- NONE ---	16.76	.00	16.76	16.76	152.04

26

Note. Names, badge numbers, and social security numbers have been changed to protect the privacy of shop employees.

REPORT NUMBER: PM-L24A

REPORT TITLE: INDIVIDUAL EMPLOYEE AWARD REPORT

The PM-L24A report, issued at the end of each 4-week incentive award period, shows on a separate page for each employee: general employee identifying information; work-hour and saved-hour data for each foreman to whom the worker's hours were charged, as well as employee share data for each foreman; and incentive computations. This report is intended for distribution to each employee. A copy of the report is placed in the employee's pay record.

<u>Field</u>	<u>Title</u>	<u>Description</u>
1	GROUP/SHOP CODES	<p>The production shop group to which the shop shown in the second half of this column belongs:</p> <p>e.g., 920 = Structural Shop Group 930 = Mechanical Shop Group 950 = Electrical/Electronics Shop Group 970 = Service Shop Group</p> <p>The shop to which the worker is assigned:</p> <p>e.g., 23 = Forge and Propeller Shop 31 = Inside Machine Shop 38 = Outside Machine Shop</p>
2	TYP EMP	<p>Type Employee: 1 = supervisor 2 = non-supervisor 9 = temporary</p> <p>The supervisor code refers to both foremen and general foremen. The non-supervisor code includes all other permanent employees. The temporary code is used to designate employees hired for a fixed term of employment. Only the non-supervisor and temporary codes should appear on this report.</p>
3	BADGE NR.	Employee's badge number.
*****EMPLOYEE*****		
4	LAST NAME FIRST	Employee's last and first names.
5	OCCUPATION CODE P-STEP	Civil Service wage grade level and pay step.
6	SHIFT	Employee's shift: 1 = day shift 2 = evening shift 3 = night shift
7	SOCIAL SECURITY NR.	Employee's social security account number.
8	INCENTIVE RATE	Employee's incentive pay rate. This figure, used for determining the employee's incentive awards, is computed as follows:

Incentive Rate = Hourly Rate X Acceleration Rate X Sharing Rate

The hourly rate refers to the employee's pay rate based on wage grade level and pay step (Field 5). The acceleration rate is the employee's hourly rate plus an additional percentage, usually around 30 percent of the hourly rate. This additional percentage reflects the additional costs of a labor hour to the shipyard for sick leave, annual leave, and other employee benefits. These acceleration costs are included in determining the cost savings the shipyard accrues for saved labor hours. The sharing rate refers to the proportion of the cost savings returned to the employee as incentive pay. For this incentive system, the sharing rate was set at 50 percent; that is, 50 percent of the accelerated hourly rate is paid for each hour the employee saves.

9 SEPARATION

Used only if the employee has separated during the current 4 weeks.

CODE DATE

Two-digit codes giving the reason for separation, along with the date of separation. Codes are as follows:

- 30 = Resignation--to private employment
- 31 = Resignation--to other than private or federal employment
- 32 = Transfer to other federal agencies
- 33 = Reduction-in-force (RIF)
- 34 = Removal (inefficiency, disqualification, etc.)
- 35 = Termination (displacement, appointment expiration)
- 36 = Extended LWOP, suspension, or military furlough
- 37 = Death
- 38 = Retirement, mandatory or voluntary
- 39 = Retirement disability or disability separation
- 40 = Transfer to another Navy activity
- 41 = Separation--military
- 42 = Involuntary separation

****FOREMAN DATA****

Performance data for each foreman to whom the worker's hours were charged during the current 4 weeks.

10 WORKED FOR
CODE NAME

Two-digit foreman code and name of each foreman to whom the worker's hours were charged during the current 4 weeks.

11 TOTAL WORK HRS.

Total work gang worked hours charged to each foreman during the current 4 weeks.

12 SAVED HOURS

Total work gang saved hours credited to each foreman during the current 4 weeks (a minus sign following the number indicates saved hours are negative due to hours expended exceeding hours allowed).

****EMPLOYEE SHARE****		Essential worker data for computation of individual incentive awards:
13	WORK HOURS	Employee work hours during the current 4 weeks. Listed by foreman code for each foreman to whom the worker's hours were charged. Work hours charged to an individual foreman are totalled and shown on the CURRENT PERIOD TOTALS summary line.
14	WORK SHARE	Employee's share of total work gang worked hours during the current 4 weeks, listed by foreman. Computed by dividing total work gang worked hours (Field 11) by individual employee work hours (Field 13), and rounding to three decimal places.
15	SAVED HOURS	Employee's share of work gang saved hours, listed by foreman and totalled. Computed by multiplying work gang saved hours (Field 12) by employee work share (Field 14) and rounding to the nearest .1 hour. Saved hours are totalled by foreman and shown on the CURRENT PERIOD TOTALS summary line.
16	INCENTIVE EARNINGS	Amount of incentive pay earned by employee, listed by foreman and totalled. Computed by multiplying employee saved hours (Field 15) by the employee's incentive rate (Field 8), and rounding to the nearest cent. Total earnings for the current 4 weeks are shown on the CURRENT PERIOD TOTALS summary line.
17	EXPLANATION AND/OR REASON FOR ADJUSTMENT	Adjustment, if any, to work gang saved hours. Used if saved hours require adjustment due to accounting errors, such as misallocation of hours or time card errors.
18	PREVIOUS ENDING BALANCE	Amount of incentive earned in previous incentive periods but not yet awarded. Refers to incentive amounts earned that fall below the \$25 minimum required for check issuance.
19	CURRENT INCENTIVE EARNED	Amount of incentive earned during the current 4 weeks, taken from the TOTALS line of incentive earnings (Field 16).
20	ADJUSTMENT TO CURRENT PERIOD AMOUNT REASON	Adjustments, if any, to individual worker incentive pay earned during the current 4 weeks. Amount of adjustment to incentive earnings. Code designating reason for incentive adjustment: PY = Compute and prepare to make payment regardless of amount. Overrides the \$25 minimum for check issuance for employees who have been temporarily reassigned to an area of the shipyard not under the incentive system. Allows employees to receive all incentive pay earned regardless of

amount. Code remains in effect for current period only.

DL = Compute/pay/print, then delete from master file. Overrides the \$25 minimum for check issuance for employees who have terminated employment with the shipyard. Allows terminating employees to receive all incentive pay earned regardless of amount. Code remains in effect for current period only.

SP = Compute but suspend payment. Applies to employees temporarily assigned to an area of the shipyard not under the incentive system, but who may have had incentive pay credited to their accounts through a time accounting error. Code remains in effect until changed by AC code (see below).

NP = Do not calculate for awards. Applies to employees who have been permanently reassigned to an area of the shipyard not under the incentive system, or who have elected not to participate in the incentive system. Code remains in effect until changed by AC code.

AC = Re-activate from SP or NP condition. Entitles employees who have returned to a shop under the incentive system or who have elected to participate in the incentive system to earn incentives.

21	NET AWARD AFTER ADJUSTMENT	Adjusted amount of incentive earned during the current 4 weeks. Computed by subtracting the amount of incentive earnings adjustment (Field 20) from the sum of the previous ending balance (Field 18) and the current incentive earned (Field 19).
22	PAYMENT THIS PERIOD	Amount of incentive earnings to be paid to the employee at the end of the current 4 weeks. Equals the total of the previous ending balance in the incentive account (Field 18) plus the net award after adjustment during the current 4 weeks (Field 21) if this total is equal to or greater than \$25. If the total is less than \$25, earnings are carried over to the next 4-week incentive period.
23	NEW ENDING BALANCE	Amount of earnings not yet paid to the employee at the end of the current 4 weeks. Equals zero either if there is a payment during the current 4 weeks or if no incentives have been earned since the beginning of the incentive system. Equals the total of the previous ending balance (Field 18) and the net award after adjustment (Field 21) if the total is less than \$25. The total in this field is always less than \$25. The balance in this field is carried across fiscal and calendar years.

It is not zeroed out unless the employee is permanently reassigned, retires, or elects to terminate participation in the incentive system.

- | | | |
|----|-----------------------------|--|
| 24 | CALENDAR YEAR EARNINGS | Employee's total incentive earnings during the current calendar year when reported by the Industrial Relations Office (IRO). The balance in this field is carried across fiscal and calendar years. It is not zeroed out unless the employee is permanently reassigned, retires, or elects to terminate participation in the incentive system. |
| 25 | CUMULATIVE TO-DATE EARNINGS | Employee's total incentive earnings for the life of the incentive system. |
| 26 | | If an adjustment is made to incentive earnings, a one-line explanation is provided below Fields 18-25 (from Field 7 of Report Number PM-L24B, Appendix G). |

APPENDIX G
INDIVIDUAL AWARDS—EMPLOYEE ADJUSTMENTS (PM-L24B)

INDIVIDUAL AWARDS - EMPLOYEE ADJUSTMENTS
PERIOD COVERING DEC 31 JAN 27ISSUE DATE 01 FEB 84
DATA DATE 27 JAN 84

1 TRANS. CODE	2 SHOP	3 EMPLOYEE TYPE	4 BADGE	5 RSN CODE	6 ADJ AMOUNT	7 EXPLANATION FOR REASON CODE
PML23	31	2	34671		16.36	PAY ADJUSTMENT ON 2.9 HRS AT 5.64
PML23	31	2	34778		15.66	PAY ADJUSTMENT ON 2.9 HRS AT 5.40
PML23	31	2	34798		13.34	PAY ADJUSTMENT ON 2.1 HRS AT 6.35
PML23	31	2	34801		11.34	PAY ADJUSTMENT ON 2.1 HRS AT 5.40
PML23	31	2	34807		33.51	PAY ADJUSTMENT ON 7.3 HRS AT 4.59

TOTAL 90.21

G-1

Note. The badge numbers have been changed to protect the privacy of shop employees.

REPORT NUMBER: PM-L24B

REPORT TITLE: INDIVIDUAL AWARDS--EMPLOYEE ADJUSTMENTS

The PM-L24B report, issued at the end of each 4-week incentive period, provides explanatory information regarding individual adjustments to incentives earned during the current 4 weeks. Each line shows the adjustment to an employee's incentive earnings and the reason for adjustment. This report is intended primarily for use by the shop superintendent and shop incentive coordinator as a ready reference to all individual incentive adjustments during the current incentive period.

Field	Title	Description
1	TRANS. CODE	The Transaction code identifying data input file. For data processing use only.
2	SHOP	The shop to which the worker is assigned: e.g., 23 = Forge and Propeller Shop 31 = Inside Machine Shop 38 = Outside Machine Shop
3	EMPLOYEE TYPE	Type Employee: 1 = supervisor 2 = non-supervisor 9 = temporary The supervisor code refers to both foremen and general foremen. The non-supervisor code includes all other permanent employees. The temporary code is used to designate employees hired for a fixed term of employment.
4	BADGE	Employee's badge number.
5	RSN CODE	Code designating reason for incentive adjustment: PY = Compute and prepare to make payment regardless of amount. Overrides the \$25 minimum for check issuance for employees who have been temporarily reassigned to an area of the shipyard not under the incentive system. Allows employees to receive all incentive pay earned regardless of amount. Code remains in effect for current period only. DL = Compute/pay/print, then delete from master file. Overrides the \$25 minimum for check issuance for employees who have terminated employment with the shipyard. Allows terminating employees to receive all incentive pay earned regardless of amount. Code remains in effect for current period only. SP = Compute but suspend payment. Applies to employees temporarily assigned to an area of the

shipyard not under the incentive system, but who may have had incentive pay credited to their accounts through a time accounting error. Code remains in effect until changed by AC code (see below).

NP = Do not calculate for awards. Applies to employees who have been permanently reassigned to an area of the shipyard not under the incentive system, or who have elected not to participate in the incentive system. Code remains in effect until changed by AC code.

AC = Re-activate from SP or NP condition. Entitles employees who have returned to a shop under the incentive system or who have elected to participate in the incentive system to earn incentives.

- | | | |
|---|--------------------------------|---|
| 6 | ADJ AMOUNT | Amount of positive or negative adjustment to incentive award during the current 4 weeks. |
| 7 | EXPLANATION FOR
REASON CODE | Explanation of the reason for incentive award adjustment (also printed in Field 26 of the PM-L24A). |

APPENDIX H

**EMPLOYEE AWARDS CERTIFICATION AND
RECOMMENDATION REPORT (PM-L25A)**

EMPLOYEE AWARDS CERTIFICATION AND RECOMMENDATION REPORT

ISSUE DATE 01 FEB 84

PERIOD COVERING DEC 31 TO JAN 27

DATA DATE 27 JAN 84

1 GROUP/SHOP CODES	2 AWARD NUMBER	3 BADGE NR.	4 LAST NAME	5 FIRST	6 CURRENT AWARD	7 VERI- FICATION	8 SOCIAL SECURITY NR.	9 OCCUPATION CODE	10 TYPE
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* INCENTIVE PERIOD DEC 31 TO JAN 27 *

* I CERTIFY THAT THE INDIVIDUAL EMPLOYEES IDENTIFIED BELOW HAVING PARTICIPATED AS MEMBERS OF A PRODUCTIVITY *

* IMPROVEMENT REWARD PROGRAM WERE INSTRUMENTAL IN CONTRIBUTING TO THE SAVINGS HOURS. THE INDIVIDUAL AWARD *

* NOMINATIONS HAVE BEEN THOROUGHLY REVIEWED AND HAVE BEEN FOUND TO BE IN COMPLIANCE WITH ALL APPLICABLE *

* REGULATIONS AND INSTRUCTIONS. *

* RECOMMENDED BY: ***** VIA CODE 930: ***** *

* NAME/ SIGNATURE/ CODE/ DATE NAME/ SIGNATURE/ DATE *

* VIA CODE 931: ***** APPROVED BY: ***** *

* NAME/ SIGNATURE/ DATE NAME/ SIGNATURE/ CODE/ DATE *

930 31		18701	CONE	RON	39.47		001-22-4365	W010-5	3414
930 31		18734	CORNER	LOU	32.95		001-41-0041	W010-5	3414
930 31		18745	GATES	BILL	60.39		001-66-9879	W011-5	3414
930 31		18755	KITE	GARY	85.26		001-44-8791	W011-5	3414
930 31		19001	LINCOLN	ROBERT	48.34		001-22-3335	W010-5	05334
930 31		19017	MORRIS	DAVE	57.72		001-33-0401	W010-5	3414
930 31		19113	FROST	MIKE	42.85		001-64-2237	W010-5	3414
930 31		19123	DIXON	PAUL	83.79		001-56-7722	W010-5	3414
930 31		19134	CLINE	TERRY	70.76		001-21-5699	W010-5	3414
930 31		19233	EWING	WADE	40.03		001-63-5011	W010-5	3414
930 31		19255	HEFFNER	NICK	70.75		001-66-9789	W010-5	5334
930 31		19301	BOWMAN	JACK	42.33		001-41-9803	W010-5	3414
930 31		19315	RODES	GEORGE	33.44		001-21-4455	W010-5	3414
930 31		19347	FREEMAN	DON	26.86		001-24-6674	W010-5	3414
930 31		19447	GUNALP	JOHN	57.72		001-11-6873	W010-5	3414

Note. Names, badge numbers, and social security numbers have been changed to protect the privacy of shop employees.

REPORT NUMBER: PM-L25A

REPORT TITLE: EMPLOYEE AWARDS CERTIFICATION AND RECOMMENDATION
REPORT

The PM-L25A report, issued at the end of each 4-week incentive award period, certifies to incentive awards personnel that the names listed have accumulated a balance equal to or greater than \$25 as of the end of the current 4-week incentive period. The certification and recommendation for award statement surrounded by asterisks at the top of the first page of this form is signed by the Shop Incentive Coordinator, the Shop Superintendent (Code 931), and the Group Superintendent (Code 930). It is then approved by the shipyard Operations Office (Code 300) and sent to the incentive awards personnel in the Employee Services Division (Code 165).

Field	Title	Description
1	GROUP/SHOP CODES	The production shop group to which the shop shown in the second half of this column belongs: e.g., 920 = Structural Shop Group 930 = Mechanical Shop Group 950 = Electrical/Electronics Shop Group 970 = Service Shop Group The shop to which the worker is assigned: e.g., 23 = Forge and Propeller Shop 31 = Inside Machine Shop 38 = Outside Machine Shop
2	AWARD NUMBER	Field used by IRO for internal accounting.
3	BADGE NR.	Employee's badge number.
4	LAST NAME	Employee's last name.
5	FIRST	Employee's first name.
6	CURRENT AWARD	The amount of incentive award recommended for payment to the employee.
7	VERIFICATION	Field used by IRO for internal accounting.
8	SOCIAL SECURITY NR.	Employee's social security account number.
9	OCCUPATION CODE	Civil Service wage grade level and pay step.
10	TYPE	General employee classification code, which designates the employee's skill area. These codes are used by IRO and Payroll.

APPENDIX I

**EMPLOYEE AWARDS CERTIFICATION AND
RECOMMENDATION REPORT (PM-L25B)**

EMPLOYEE AWARDS CERTIFICATION AND RECOMMENDATION REPORT

ISSUE DATE 01 FEB 84

PERIOD COVERING DEC 31 TO JAN 27

DATA DATE 27 JAN 84

1 GROUP/SHOP CODES	2 AWARD NUMBER	3 BADGE NR.	4 LAST NAME	5 FIRST	6 UNPAID BALANCE	7 VERI- FICATION	8 SOCIAL SECURITY NR.	9 OCCUPATION CODE	10 TYPE
930 31		18678	BIRD	PHIL	.00		001-41-3221	WG11-5	3414
930 31		18685	YOUNG	MEL	.00		001-22-4741	WG10-5	05334
930 31		18711	COIN	RONALD	.00		001-22-4635	WG10-4	3414
930 31		18717	DOBBS	JERRY	6.27		001-32-7653	WG10-5	3414
930 31		18735	GIVENS	ROB	11.17		001-41-3301	WG10-5	05334
930 31		18741	THORN	DEL	.00		001-09-4471	WG10-5	3414
930 31		18744	GABLE	WILLIAM	.00		001-05-8879	WG10-5	3414
930 31		18749	COX	FRAN	.00		001-03-7742	WG10-5	3414
930 31		18754	CROSBY	DREW	.00		001-41-7891	WG10-5	3414
930 31		18767	RIEDEL	WALTER	.00		-----	-	-
930 31		19002	LOVEL	RICHARD	.00		001-21-3335	WG10-5	5334
930 31		19014	HENRY	JOHN	.00		001-04-1123	WG10-5	3414
930 31		19015	MORRISON	LES	20.82		001-17-6634	WG10-5	3414
930 31		19021	JAMES	BOB	.00		001-54-9763	WG10-5	3414
930 31		19112	MARBY	THOMAS	16.76		001-46-2327	WG10-5	3414
930 31		19118	OGDEN	KARL	4.66		001-32-5579	WG10-5	3414
930 31		19122	OGLE	KEVIN	.00		001-56-7272	WG10-5	3414
930 31		19129	RUST	LARRY	.00		-----	-	-
930 31		19132	CROXTON	BRENT	23.28		001-21-5969	WG10-5	05334
930 31		19135	BARRETT	DENNIS	.00		-----	-	-
930 31		19237	ATKINS	GREG	4.27		001-63-5101	WG09-5	3711
930 31		19241	BERRY	DANIEL	.00		001-03-7778	WG10-5	3414
930 31		19244	KAMIN	FRED	.00		001-44-3327	WG10-5	3414
930 31		19254	HUBERT	ROB	.00		001-32-5759	WG14-5	3401
930 31		19265	HEMPHILL	WES	.00		001-56-7722	WG10-5	3414
930 31		19344	FREY	EARL	.00		001-45-6763	WG10-5	5334
930 31		19357	BURKE	RICHARD	3.58		001-21-9569	WG10-5	3414
930 31		19387	ANDERSON	NORMAN	2.79		001-30-1515	WG10-5	3414
930 31		19397	FORREY	KENNETH	19.71		001-63-5110	WG10-5	3414
930 31		19417	DANIELS	BEN	.00		001-30-7877	WG10-5	3414
930 31		19434	HOAG	ALBERT	.00		-----	-	-
930 31		19465	GARVEY	ALVIN	.00		001-23-5579	WG10-5	3414
930 31		19475	LONG	WALTER	.00		001-65-7272	WG10-5	3414
930 31		19484	MIER	RORY	.00		001-45-6673	WG10-5	3414
930 31		19503	OLSEN	NATHAN	.00		001-06-7734	WG14-5	3401
930 31		19527	HANN	STEVE	11.93		001-31-8773	WG10-5	3414
930 31		19546	COVILL	STUART	.00		001-63-1443	WG10-5	3414
930 31		19557	ARDEN	NICK	.00		001-03-8777	WG10-5	3414
930 31		20121	KRAUSS	GARY	2.34		001-33-7669	WG08-4	03414
930 31		20133	MOULIN	AUSTIN	.00		001-32-5759	WG10-5	3414
930 31		20225	WALTERS	FRANK	.00		001-56-2772	WG14-5	3401
930 31		21344	WILLIAMS	ADAM	9.86		001-27-8873	WG10-5	3414
930 31		21374	GRANT	KELLY	3.17		001-06-7374	WG14-5	3401
930 31		21389	STEVENS	GRANT	.00		001-13-7873	WG10-5	3414
930 31		21403	SEALEY	DONALD	1.10		001-36-1434	WG14-5	3401
930 31		21477	PARR	PATRICK	.93		001-03-8217	WG10-5	05334
930 31		21505	HUDSON	RUSTY	.00		001-01-2311	WL10-5	03414
930 31		21577	GILLARD	NORMAN	11.14		001-03-7794	WG10-5	3414

Note. Names, badge numbers, and social security numbers have been changed to protect the privacy of shop employees.

REPORT NUMBER: PM-L25B

REPORT TITLE: EMPLOYEE AWARDS CERTIFICATION AND RECOMMENDATION
REPORT

The PM-L25B report, issued at the end of each 4-week incentive award period, uses the same format as the PM-L25A report, but rather than listing award recipients, lists employees in each shop whose incentive account balances are less than \$25, that is, employees who will not receive awards during the current period. Together, the PM-L25A and PM-L25B list all shop employees and their incentive award earnings as of the current 4-week incentive award period. This report is intended for use by the shop superintendent, shop incentive coordinator, and the Employee Services Division (Code 165).

Field	Title	Description
1	GROUP/SHOP CODES	The production shop group to which the shop shown in the second half of this column belongs: e.g., 920 = Structural Shop Group 930 = Mechanical Shop Group 950 = Electrical/Electronics Shop Group 970 = Service Shop Group The shop to which the worker is assigned: e.g., 23 = Forge and Propeller Shop 31 = Inside Machine Shop 38 = Outside Machine Shop
2	AWARD NUMBER	Field used by IRO for internal accounting.
3	BADGE NR.	Employee's badge number.
4	LAST NAME	Employee's last name.
5	FIRST	Employee's first name.
6	UNPAID BALANCE	The amount of incentive earnings not yet awarded.
7	VERIFICATION	Field used by IRO for internal accounting.
8	SOCIAL SECURITY NR.	Employee's social security account number.
9	OCCUPATION CODE	Civil Service wage grade level and pay step.
10	TYPE	General employee classification code, which designates the employee's skill area. These codes are used by IRO and Payroll.

APPENDIX J
SHOP/EMPLOYEE AWARDS HISTORY REPORT (PM-L25C)

SHOP/EMPLOYEE AWARDS HISTORY REPORT

ISSUE DATE 01 FEB 84

PERIOD COVERING DEC 31 TO JAN 27

DATA DATE 27 JAN 84

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
GRP/SHOP	T	BADGE	****	EMPLOYEE	****	OCCUPATION	PREVIOUS	CURR.	ADJUST-	CURRENT	ENDING	EARNGS.	AWARDED	CURRENT	CUMM.	
CODES	Y	NR.	LAST NAME	FIRST	CODE	TYPE	END BAL.	EARNGS.	MENTS	AWARD	BALANCE	TO-DATE	TO-DATE	**SAVED HOURS**		
930	31	2	18678	BIRD	PHIL	WG11-5	3414	.00	.00	.00	.00	73.74	73.74	.0	7.7	
930	31	2	18685	YOUNG	MEL	WG10-5	05334	.00	.00	.00	.00	65.50	65.50	.0	7.1	
930	31	2	18711	COIN	RONALD	WG10-4	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	18717	DOBBS	JERRY	WG10-5	3414	6.27	.00	.00	.00	6.27	68.99	62.72	7.7	
930	31	2	18735	GIVENS	ROB	WG10-5	05334	.00	11.17	.00	.00	11.17	610.78	599.61	67.8	
930	31	2	18741	THORN	DEL	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	18744	GABLE	WILLIAM	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	18749	COX	FRAN	WG10-5	3414	.00	.00	.00	.00	27.91	27.91	.0	3.1	
930	31	2	18754	CROSBY	DREW	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	18767	RIEDEL	WALTER	-		.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	19002	LOVEL	RICHARD	WG10-5	3414	14.33	25.14	.00	39.47	143.41	143.41	2.7	14.7	
930	31	2	19014	HENRY	JOHN	WG10-5	5334	.00	.00	.00	.00	427.39	427.39	.0	47.7	
930	31	2	19015	MORRISON	LES	WG10-5	3414	.00	.00	.00	.00	90.25	90.25	.0	9.9	
930	31	2	19021	JAMES	BOB	WG10-5	3414	15.23	5.59	.00	.00	20.82	109.53	88.71	10.9	
930	31	2	19112	MARBY	THOMAS	WG10-5	3414	.00	.00	.00	.00	27.83	27.83	.0	3.0	
930	31	2	19118	OGDEN	KARL	WG10-5	3414	.00	16.76	.00	.00	16.76	152.04	135.28	15.7	
930	31	2	19122	OGLE	KEVIN	WG10-5	3414	.00	4.66	.00	.00	4.66	4.66	.0	.5	
930	31	2	19129	RUST	LARRY	WG10-5	3414	14.33	18.62	.00	32.95	152.12	152.12	2.0	15.7	
930	31	2	19132	CROXTON	BRENT	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	19135	BARRETT	DENNIS	WG11-5	3414	.00	60.39	.00	60.39	660.81	660.81	6.2	70.1	
930	31	2	19237	ATKINS	GREG	-		.00	.00	.00	.00	272.92	272.92	.0	39.9	
930	31	2	19241	BERRY	DANIEL	WG10-5	05334	.00	23.28	.00	.00	23.28	829.61	806.33	2.5	92.0
930	31	2	19244	KAMIN	FRED	-		.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	19254	HUBERT	ROB	WG09-5	3711	4.27	.00	.00	.00	4.27	4.27	.0	.5	
930	31	2	19265	HEMPHILL	WES	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	19344	FREY	EARL	WG11-5	3414	.00	65.26	.00	65.26	798.44	798.44	6.7	84.6	
930	31	2	19357	BURKE	RICHARD	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	19387	ANDERSON	NORMAN	WG14-5	3401	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	19397	FORREY	KENNETH	WG10-5	05334	1.79	48.55	.00	48.34	48.34	48.34	5.0	5.2	
930	31	2	19417	DANIELS	BEN	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	19434	HOAG	ALBERT	WG10-5	5334	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	19465	GARVEY	ALVIN	WG10-5	3414	.00	57.72	.00	57.72	318.50	318.50	6.2	34.7	
930	31	2	19475	LONG	WALTER	WG10-5	3414	3.58	.00	.00	.00	3.58	3.58	.0	.4	
930	31	2	19484	MIER	RORY	WG10-5	3414	.00	2.79	.00	.00	2.79	44.71	41.92	.3	4.9
930	31	2	19503	OLSEN	NATHAN	WG10-5	3414	19.71	.00	.00	.00	19.71	19.71	.0	2.2	
930	31	2	19527	HANN	STEVE	WG10-5	3414	23.30	19.55	.00	42.85	138.72	138.72	2.1	14.1	
930	31	2	19546	COVILL	STUART	WG10-5	3414	.00	.00	.00	.00	144.18	144.18	.0	15.9	
930	31	2	19557	ARDEN	NICK	WG10-5	3414	.00	83.79	.00	83.79	630.25	630.25	9.0	69.7	
930	31	2	20121	KRAUSS	GARY	WG10-5	3414	.00	70.76	.00	70.76	682.79	682.79	7.6	75.7	
930	31	2	20133	MOULIN	AUSTIN	-		.00	.00	.00	.00	26.88	26.88	.0	3.0	
930	31	2	20225	WALTERS	FRANK	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	21344	WILLIAMS	ADAM	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	21374	GRANT	KELLY	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	21389	STEVENS	GRANT	WG14-5	3401	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	21403	SEALEY	DONALD	WG10-5	3414	4.48	7.45	.00	.00	11.93	11.93	.6	1.3	
930	31	2	21477	PARR	PATRICK	WG10-5	3414	.00	.00	.00	.00	40.26	40.26	.0	4.4	
930	31	2	21505	HUDSON	RUSTY	WG10-5	3414	.00	.00	.00	.00	.00	.00	.0	.0	
930	31	2	21577	GILLARD	NORMAN	WG08-4	03414	2.34	.00	.00	.00	2.34	2.34	.0	.3	

Note. Names and badge numbers have been changed to protect the privacy of shop employees.

REPORT NUMBER: PM-L25C

REPORT TITLE: SHOP/EMPLOYEE AWARDS HISTORY REPORT

The PM-L25C report, issued at the end of each 4-week incentive award period, provides current and historical information on each employee's earnings under the incentive system. Employees are listed in order by badge number. This report is intended for use by the shop superintendent and shop incentive coordinator.

<u>Field</u>	<u>Title</u>	<u>Description</u>
1	GRP/SHOP CODES	<p>The production shop group to which the shop shown in the second half of this column belongs:</p> <p>e.g., 920 = Structural Shop Group 930 = Mechanical Shop Group 950 = Electrical/Electronics Shop Group 970 = Service Shop Group</p> <p>The shop to which the foreman is assigned:</p> <p>e.g., 23 = Forge and Propeller Shop 31 = Inside Machine Shop 38 = Outside Machine Shop</p>
2	TY	<p>Type Employee: 1 = supervisor 2 = non-supervisor 9 = temporary</p> <p>The supervisor code refers to both foremen and general foremen. The non-supervisor code includes all other permanent employees. The temporary code is used to designate employees hired for a fixed term of employment.</p>
3	BADGE NR.	Employee's badge number.
*****EMPLOYEE*****		
4	LAST NAME	Employee's last name.
5	FIRST	Employee's first name.
6	OCCUPATION CODE	Civil Service wage grade level and pay step.
7	TYPE	General employee classification code, which designates the employee's skill area. These codes are used by IRO and Payroll.
8	PREVIOUS END BAL.	Balance in incentive award account at the end of the previous 4 weeks.
9	CURR. EARNGS.	Incentive earnings during the current 4 weeks.
10	ADJUSTMENTS	Amount of adjustment to current earnings.

11	CURRENT AWARD	Amount of incentive award paid to the employee during the current 4 weeks. This amount is equal to the sum of the previous ending balance (Field 8) and current earnings (Field 9), plus or minus adjustments (Field 10) if this total is greater than or equal to \$25. If this sum is less than \$25, no award is paid during the current period and this column is zero.
12	ENDING BALANCE	Incentive awards earned but not yet paid. If a current award (Field 11) is paid, ending balance is zero; if there is no current award, ending balance equals the sum of the previous ending balance (Field 8) and current earnings (Field 9), plus or minus adjustments (Field 10).
13	EARNINGS. TO-DATE	Total individual employee incentive earnings for the life of the incentive system.
14	AWARDED TO-DATE	Total amount of incentive earnings paid to the employee. Equals total individual employee earnings (Field 13), less current ending balance (Field 12), if any.
15	CURRENT **SAVED HOURS**	Employee's share of saved hours in all work gangs to which his or her hours were charged: Hours saved during the current 4 weeks.
16	CUMM. **SAVED HOURS**	Cumulative hours saved through the history of the incentive system.

APPENDIX K
SHOP/EMPLOYEE AWARDS HISTORY REPORT BY
NAME X SHOP (PM-L25D)

PM-L25D

SHOP/EMPLOYEE AWARDS HISTORY REPORT BY NAME X SHOP

ISSUE DATE 21 APR 84

PERIOD COVERING MAR 24 TO APR 20

DATA DATE 20 APR 84

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
GRP/SHOP	T	BADGE	****	EMPLOYEE	****	OCCUPATION	PREVIOUS	CURR.	ADJUST-	CURRENT	ENDING	EARNGS.	AWARDED	CALENDAR
CODES	Y	NR.	LAST	NAME	FIRST	CODE	TYPE	END BAL.	MENTS	AWARD	BALANCE	TO-DATE	TO-DATE	ERNGS-TO-DATE
930	31	2	16878	AKERS	MEL	WG09-5	3711	7.82	.00	.00	7.82	7.82	.00	3.55
930	31	2	18865	AKERS	WILLIAM	WG10-5	05334	.00	72.62	.00	72.62	211.67	211.67	146.17
930	31	2	18171	ALBE	RONALD	WG10-5	3414	.00	.00	.00	.00	.00	.00	.00
930	31	2	17817	AMOS	JERRY	WG10-5	3414	.00	83.79	.00	83.79	996.49	996.49	311.89
930	31	2	17385	ANDERS	ROB	WG10-3	3414	.00	37.20	.00	37.20	92.35	92.35	37.20
930	31	2	14187	ARDEN	DEL	WG10-5	3414	6.52	15.83	.00	.00	22.35	50.18	27.83
930	31	2	12213	BACKWITH	WILLIAM	-	-	.00	.00	.00	.00	.00	.00	.00
930	31	2	13277	BALCH	FRAN	WG10-5	3414	.00	.00	.00	.00	.00	.00	.00
930	31	2	12354	BALDWIN	DREW	WG11-5	3414	22.40	7.79	.00	30.19	660.87	660.87	30.19
930	31	2	14457	BARNES	WALTER	WG10-4	05334	.00	38.61	.00	38.61	293.20	293.20	38.61
930	31	2	22341	BASS	RICHARD	WG10-4	5334	.00	45.80	.00	45.80	682.64	682.64	45.80
930	31	2	34771	BLOCK	JOHN	WG08-2	3414	15.06	7.53	.00	.00	22.59	135.10	112.51
930	31	2	23177	BRADY	LES	WG10-4	5334	.00	12.57	.00	.00	12.57	400.44	387.87
930	31	2	33245	BRANDT	BOB	WT10-7	03414	.00	.00	.00	.00	158.96	158.96	.00
930	31	2	22357	BROWN	THOMAS	WG10-5	5334	.00	122.89	.00	122.89	974.06	974.06	318.40
930	31	2	32779	BUCKLER	KARL	WG10-5	3414	.00	.00	.00	.00	90.25	90.25	.00
930	31	2	13373	BUECHLER	KEVIN	WG10-5	3414	.00	.00	.00	.00	.00	.00	.00
930	31	2	11401	CABELLA	LARRY	WG10-5	5334	15.83	.00	.00	.00	86.58	70.75	62.38
930	31	2	11932	CADDELL	BRENT	WT10-5	3414	.00	.00	.00	.00	1.25	1.25	.00
930	31	2	19315	CARNETT	DENNIS	WG05-3	03414	.00	.00	.00	.00	.00	.00	.00
930	31	2	11134	CELESTIAL	GREG	WG10-3	3414	.00	.00	.00	.00	.00	.00	.00
930	31	2	22175	CHUE	DANIEL	WL10-5	03414	.00	.00	.00	.00	.00	.00	.00
930	31	2	24415	CROFT	FRED	WG08-3	3414	3.13	.00	.00	3.13	546.95	543.82	40.71
930	31	2	34071	CURTIS	ROB	WG10-4	05334	.00	77.23	.00	77.23	304.58	304.58	160.74
930	31	2	15265	DAVID	WES	WG08-3	03414	.00	.00	.00	.00	.00	.00	.00
930	31	2	13244	DENTON	EARL	WG10-5	3414	.00	.00	.00	.00	.00	.00	.00
930	31	2	13957	DEWEY	RICHARD	WG10-5	3414	.00	66.10	66.10	.00	.00	.00	.00
930	31	2	22237	DITTA	NORMAN	WG10-2	03414	24.87	.00	.00	24.87	24.87	.00	6.64
930	31	2	17549	DREXIER	KENNETH	WG10-2	3414	.00	.00	.00	.00	.00	.00	.00
930	31	2	14417	DROKE	BEN	WT10-7	3414	.00	.00	.00	.00	59.88	59.88	.00
930	31	2	43422	DUPREE	ALBERT	WT10-5	3414	3.13	.00	.00	3.13	3.13	.00	.00
930	31	2	17554	EARL	ALVIN	WG08-3	03414	.00	.00	.00	.00	.00	.00	.00
930	31	2	33257	ENGLE	WALTER	WG10-2	3414	4.15	.00	.00	4.15	4.15	4.15	4.15
930	31	2	44532	EVANS	RORY	WG05-3	03711	.00	.00	.00	.00	.00	.00	.00
930	31	2	12273	FANELLI	NATHAN	WG10-3	3414	3.32	1.73	.00	.00	67.83	62.78	5.05
930	31	2	12744	FAVOR	STEVE	WG08-3	03414	.00	.00	.00	.00	.00	.00	.00
930	31	2	19545	FOGEL	STUART	WG10-3	3414	19.20	.00	.00	19.20	19.20	.00	.00
930	31	2	15576	FRANKO	NICK	WG10-4	03414	.00	27.84	.00	27.84	55.47	55.47	50.29
930	31	2	14577	FRITZ	GARY	WG10-5	3414	.00	52.14	.00	52.14	308.34	308.34	193.68
930	31	2	23113	GAETAN	AUSTIN	WG10-5	03414	.00	.00	.00	.00	.00	.00	.00
930	31	2	22254	GALEA	FRANK	WG10-5	3414	.00	10.24	.00	10.24	232.33	222.09	126.61
930	31	2	23144	GELBER	ADAM	WG10-5	3414	.00	80.07	.00	80.07	870.64	870.64	310.98
930	31	2	21734	GRANT	KELLY	WG10-5	5334	1.86	.00	.00	1.86	1.86	.00	1.86
930	31	2	12389	GRASS	GRANT	WG10-3	05334	.00	76.99	.00	76.99	175.96	175.96	142.73
930	31	2	40344	GRAVES	DONALD	WG10-4	3414	14.30	15.27	.00	29.57	29.57	29.57	27.84
930	31	2	12477	GRAY	PATRICK	WT10-3	03414	.00	.00	.00	.00	.00	.00	.00
930	31	2	12505	GRIM	RUSTY	WG11-5	3414	.00	64.28	.00	64.28	975.70	975.70	242.52
930	31	2	11134	GRUNDY	NORMAN	WT10-7	3414	.00	12.15	.00	.00	42.52	30.37	42.52

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Note. Names and badge numbers have been changed to protect the privacy of shop employees.

REPORT NUMBER: PM-L25D

REPORT TITLE: SHOP/EMPLOYEE AWARDS HISTORY REPORT BY NAME X SHOP

The PM-L25D report provides virtually the same information as the PM-L25C report, except that employees are listed in alphabetical order for easier reference. Two fields from the PM-L25C, current and cumulative saved hours, are replaced with calendar year earnings to date. This report is intended for use by the shipyard personnel office.

<u>Field</u>	<u>Title</u>	<u>Description</u>
1	GRP/SHOP CODES	<p>The production shop group to which the shop shown in the second half of this column belongs:</p> <p>e.g., 920 = Structural Shop Group 930 = Mechanical Shop Group 950 = Electrical/Electronics Shop Group 970 = Service Shop Group</p> <p>The shop to which the worker is assigned:</p> <p>e.g., 23 = Forge and Propeller Shop 31 = Inside Machine Shop 38 = Outside Machine Shop</p>
2	TY	<p>Type Employee: 1 = supervisor 2 = non-supervisor 9 = temporary</p> <p>The supervisor code refers to both foremen and general foremen. The non-supervisor code includes all other permanent employees. The temporary is used to designate employees hired for a fixed term of employment.</p>
3	BADGE NR.	Employee's badge number.
****EMPLOYEE****		
4	LAST NAME	Employee's last name.
5	FIRST	Employee's first name.
6	OCCUPATION CODE	Civil Service wage grade level and pay step.
7	TYPE	General employee classification code, which designates the employee's skill area. These codes are used by IRO and Payroll.
8	PREVIOUS END BAL.	Balance in incentive award account at the end of the previous 4 weeks.
9	CURR. EARNGS.	Incentive earnings during the current 4 weeks.
10	ADJUSTMENTS	Amount of adjustment to current earnings.

11	CURRENT AWARD	Amount of incentive award paid to the employee during the current 4 weeks. This amount is equal to the sum of the previous ending balance (Field 8) and current earnings (Field 9), plus or minus adjustments (Field 10) if this total is greater than or equal to \$25. If this sum is less than \$25, no award is paid during the current period and this column is zero.
12	ENDING BALANCE	Incentive awards earned but not yet paid. If a current award (Field 11) is paid, ending balance is zero; if there is no current award, ending balance equals the sum of the previous ending balance (Field 8) and current earnings (Field 9), plus or minus adjustments (Field 10).
13	EARNINGS TO-DATE	Total individual employee incentive earnings for the life of the incentive system.
14	AWARDED TO-DATE	Total amount of incentive earnings paid to the employee. Equals total individual employee earnings (Field 13), less current ending balance (Field 12), if any.
15	CALENDAR EARNINGS-TO-DATE	Total individual employee earnings for the current calendar year.

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